1965 Series
PS
Issue 153
THE PREVENTIVE MAINTENANCE MONTHLY
WANT US TO GET CLOSER?
YOU SURRENDER NOW?
YAK! YAK!
FO
CAN'T FIGURE IT... WE GOT NO RANGE! WOT'S WRONG?
WOT'S WRONG! LOOKIT THE CONDITION OF THIS CRUMMY AMMO!
AMMUNITION FEATURE
See Page 2
© WILL EISNER

QUOTES

When it comes to the *Who* and the *Why* of maintaining Army equipment, the Regulations pin things down real snug.

Now, it's up to you, your sergeant and your commander to get the job done.

AR 11-14

"**3. Objective.** The Army's highest priority peacetime function is to attain and maintain a combat operational status sufficient for units to accomplish their assigned missions in accordance with the time schedule established in operational and contingency plans. Combat readiness requires both ready personnel and ready materiel."

"**6. Command responsibilities.** The attitude toward materiel readiness must be such that commanders, soldiers, and civilians at all levels realize that the increasing dependency of the Army on larger quantities of more complex materiel carries with it the mandatory obligation to maintain materiel in a ready condition. This is an Army-wide, worldwide problem involving all officers, warrant officers, enlisted personnel, and civilians. A proper priority application of available resources is required so that funds, manpower (qualitative as well as quantitative), management, and technical skills are applied to improve materiel readiness."

"(Training in preventive maintenance is equal in importance to other functional military training as prescribed in AR 350–1.)"

"*d. Individual responsibilities.* Assigned operator or users of equipment will be responsible for proper preventive maintenance services."

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AR 750-1

"**18. Principles of maintenance.** *a.* Each commander is responsible for his assigned maintenance.

b. Maintenance will be performed in accordance with published maintenance doctrine at the lowest category consistent with the tactical situation, skills, time, repair parts, tools, and test equipment available within allocations.

c. Repairs will be accomplished on site, whenever feasible and in accordance with maintenance allocation charts.

d. Unserviceable materiel which is beyond the maintenance capability of an organization will be reported or delivered to the next higher maintenance organization.

e. All authorized maintenance within the capability of an organization will be accomplished whenever possible before evacuation of economical repairable items to the next higher maintenance organization."

AR 750-5

"**4. Responsibilities.** *a.* Materiel maintenance responsibilities within Headquarters, Department of the Army and U.S. Army Materiel Command are assigned in AR 10–5 and AR 10–11."

"(2) Commanders, including squad, section, and platoon are responsible for—

(*a*) Insuring that all equipment is in a serviceable and mission-ready condition. See AR 750–10."

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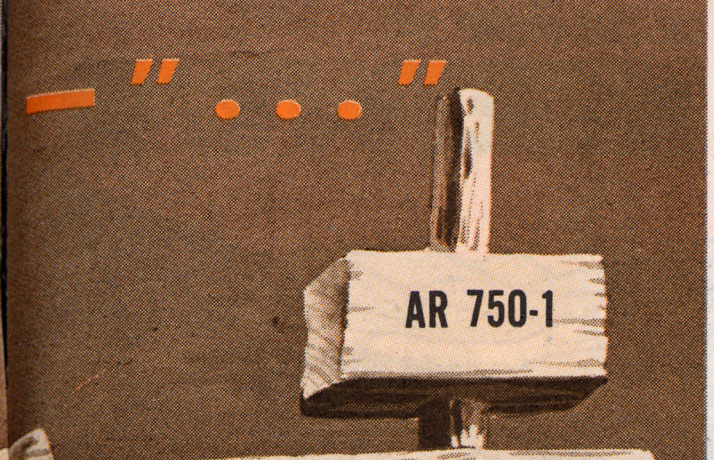

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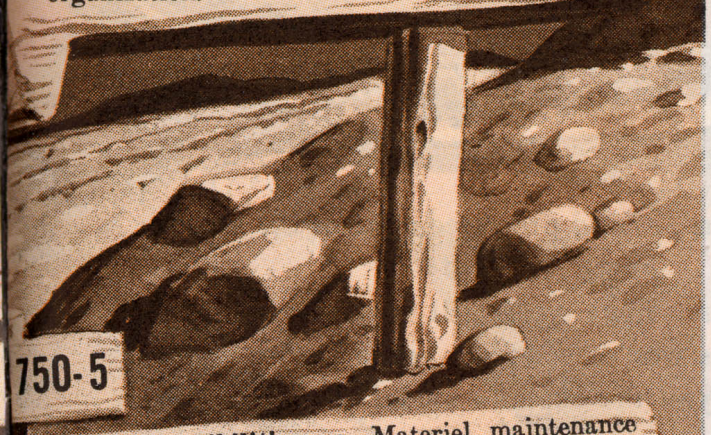

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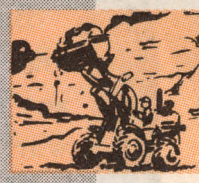

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LIKE THAT COLONEL SAID:

KEEP Y'R

And not only dry, either. Keep it clean . . . and protected against the weather . . . and bumps . . . and . . . and . . .

But, heck, it's all common horse sense. Your weapon'll never be any better than the rations you feed'er. Moldy oats won't ever fetch you a Derby winner, any more than fouled up ammo'll get you the expert's medal—or win you a war!

Yessir, you're smart to give your ammo the same heads-up care you give the arms you fire, whether you're an infantryman, artilleryman or tanker.

Matter of fact, most of the rules for small arms are the same as for the bigger stuff.

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THE DIRTY DEAL

Take dirt, grease or grime as one f'rinstance. Slam home a dirty old round in the chamber of any weapon, be it a 7.62-mm rifle or a 175-mm gun, and you'll be haunted. If the round gets jammed in the chamber, you'll have a job getting it out. Or, if it comes out on its own, it might mean goodbye weapon.

PS MORE

POWDER DRY!

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PS MORE

On t'other hand, if the chamber or bore's messed up with gook or carbon buildup, even clean ammo won't have a chance. If the projectile can't get out the muzzle end of the weapon, it'll try to bust out the sides of the barrel.

Clean ammo and clean weapons go together like cheesecake and pinups.

Or take the case of dampness. Fire off a cartridge that's been over-exposed to rain, snow, high humidity and the like, and chances are you'll wind up with a dud.

And one final sample: Work around ammo with a Joe who's careless about touchy things like primers and fuzes and, brother, could be you've had it! With guys on your side who don't give a darn how they handle ammo, who needs the enemy?

Boil it all down, then, and you get a pretty strong case for good PM — in storage, on the move and in the line.

IT MAY TAKE SOME DOING SOMETIMES IN THE BOONDOCKS, BUT HERE'RE THE BIG THINGS TO TRY FOR.

No matter where you're operating or under what conditions, proper storage'll shortstop most of your ammo troubles.

STORAGE

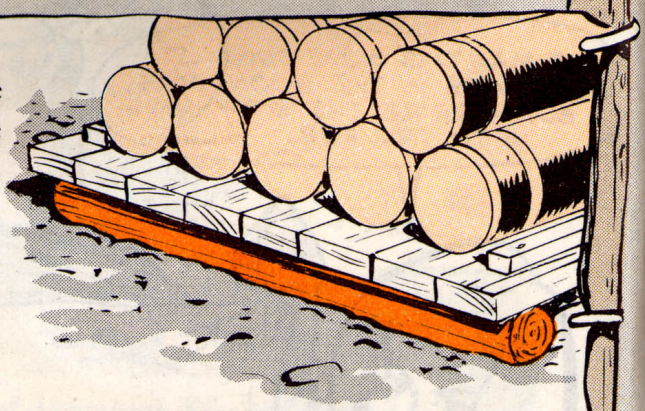
Pile your ammo in neat stacks, separated by type, caliber and lot number.

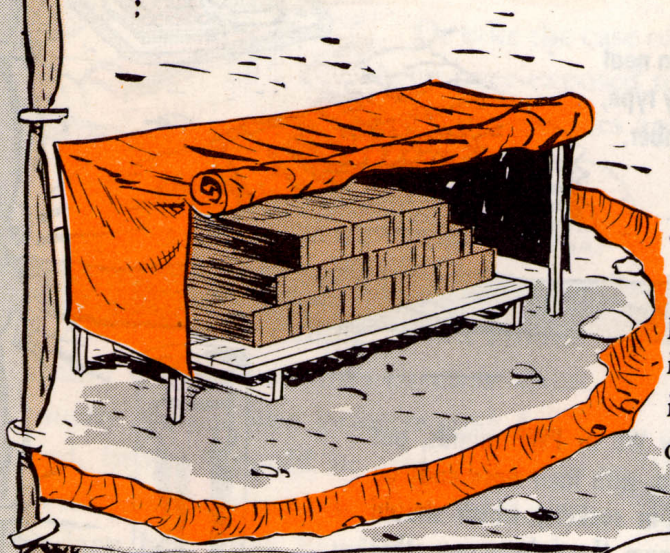
If you have any WP or PWP rounds, put 'em in a clear area, with their nose ends up — except for 3.5-in rockets, which should have their noses down. If you have any other type rockets, like HE, for instance, f'gosh sakes be sure and point 'em all one way, either all nose down or all towards a barricade or hill.

As for the rest of the stuff, depending on kind and amount, put the stacks far enough apart so that if one blows the others won't join in the fireworks.

PS MORE

Use at least 6 inches of dunnage under the pile to keep ammo off the ground and vice versa. Wood's fine, but in a pinch you could use tree branches. Strips laid between the tiers of cases will keep the air circulating, too.

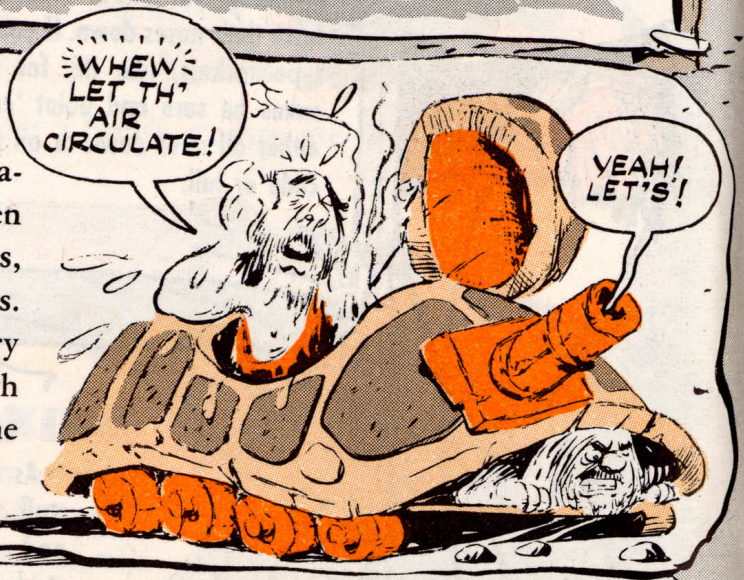


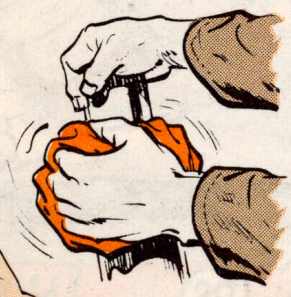


Put a tarp or any waterproof covering over the stack. Allow about 18 inches at the top and sides for air space. The same goes if you're using sandbags on the sides.

Of course, you'll look for a high piece of ground to put your stack, but if you don't have a choice, it's a good idea to dig ditches to carry the water off.

Speaking of which—condensation's a special problem when you're storing ammo in tanks, APC's and certain other vehicles. You'll help keep your powder dry if you leave the ramp and hatch open whenever you can to let the air circulate around the ammo.





And if your ammo gets wet overnight, wipe it off and then open the hatch and ramp and let it air-dry. You'll also get a lot of condensation when the inside of your vehicle's real cold and the outside air gets warm and moist. You'll do a lot of wiping and mopping; also, open up the vehicle to let the ammo warm up to the outside air temperature to keep water from collecting on it.

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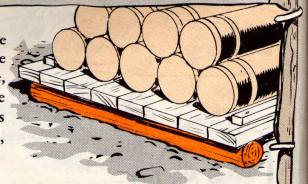

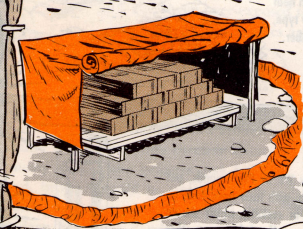

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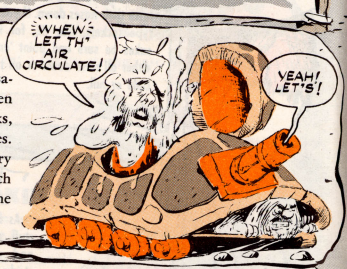

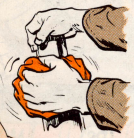

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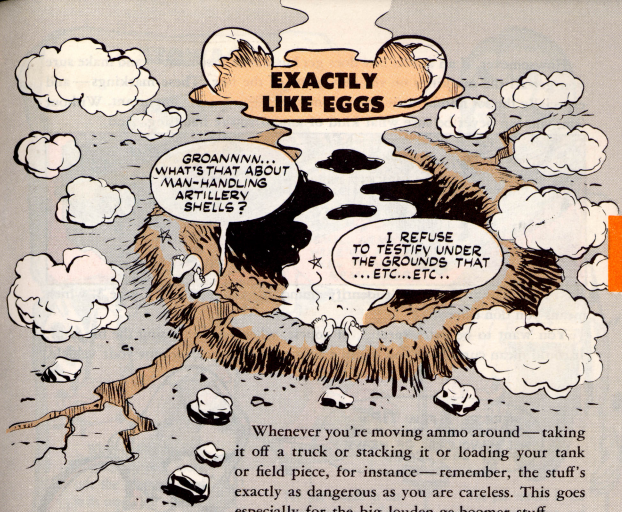
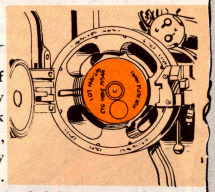


Whenever you're moving ammo around—taking it off a truck or stacking it or loading your tank or field piece, for instance—remember, the stuff's exactly as dangerous as you are careless. This goes especially for the big louden-ge-boomer stuff.

Bumping, dropping, tumbling or the like could blast you into space in a flash—or it could cause serious dents and scratches that'd lead to all kinds of woe when you go to fire it.



O'course, this doesn't mean that every piece of ammo that gets dropped or bumped—or slightly scratched or dented—is automatically N.G. Heck no. As long as the round'll seat right in the weapon, it's OK to use. Matter of fact, a lot of fired artillery cases have some of permissible dents and folds. They're the ones that have been re-worked and re-loaded for re-use. They test out OK and don't affect the ammo one bit. Good, sound economy, that's all.

But . . . whenever any ammo you're handling gets bumped or dropped, f'gosh-sakes see how badly it's been damaged. If you have any doubts about it, play it smart. Turn it in to support for a final expert decision.

PS MORE

EXACTLY LIKE EGGS

GROANNNN... WHAT'S THAT ABOUT MAN-HANDLING ARTILLERY SHELLS?

I REFUSE TO TESTIFY UNDER THE GROUNDS THAT ...ETC...ETC..

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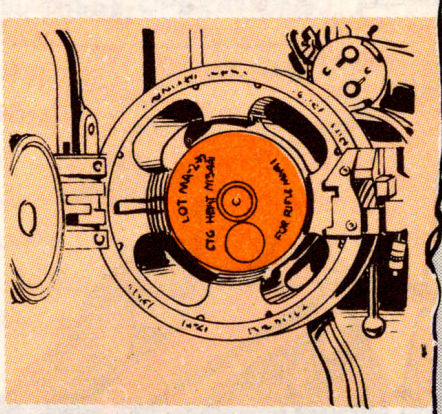

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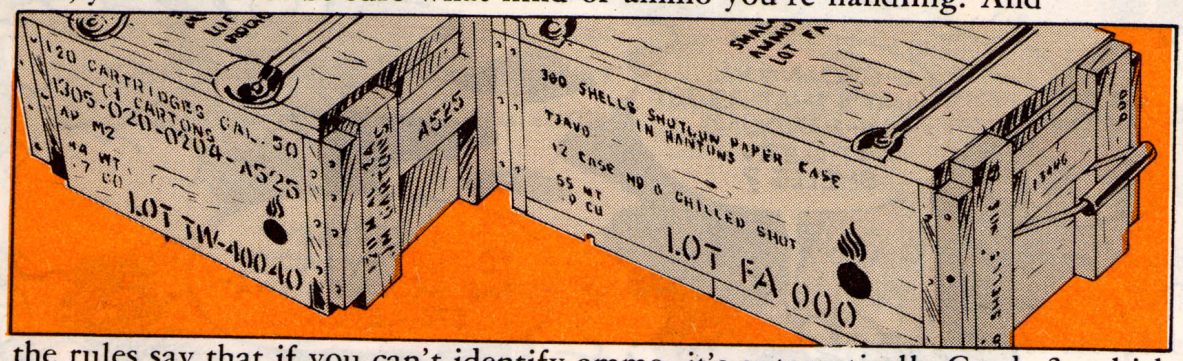
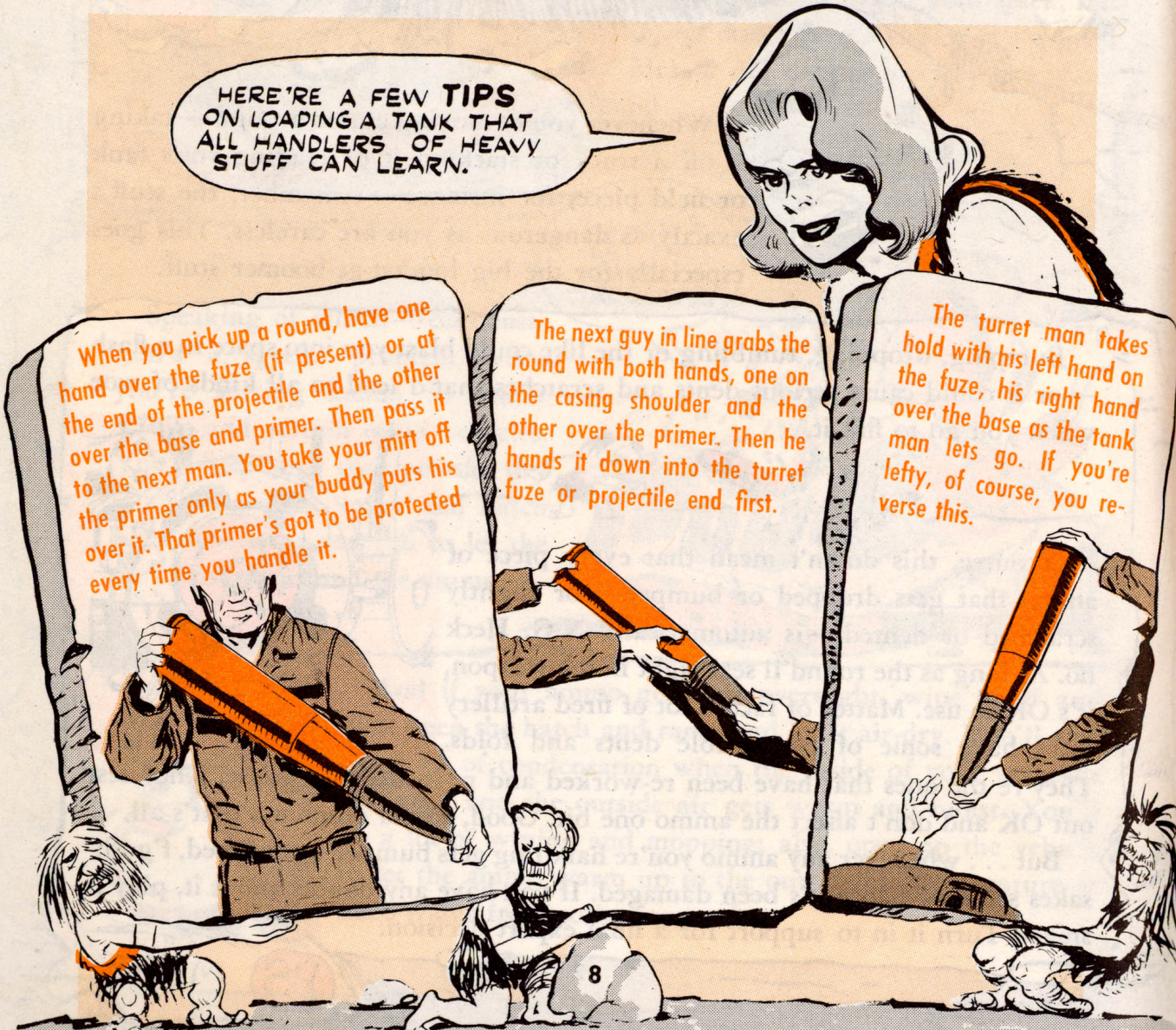
Howsomever, if an ammo box does get busted, fix it soonest — and make sure you get all the markings on the new parts of the box. These markings — and especially the lot numbers on ammo containers — are real important. Without 'em, you can never be sure what kind of ammo you're handling. And

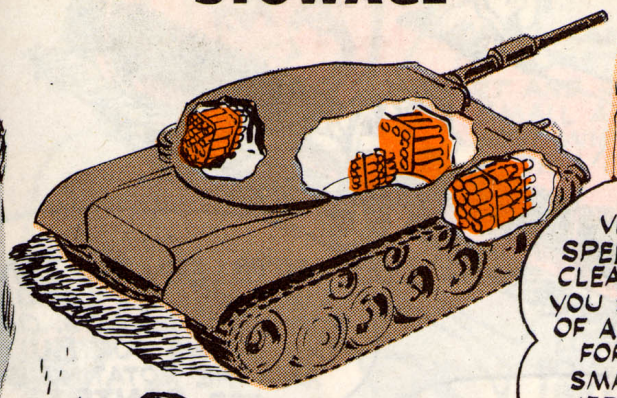


the rules say that if you can't identify ammo, it's automatically Grade 3, which means you don't fire it.

You want to be extra careful, of course, when you're passing the big stuff. It could mean curtains if you bump a primer, f'rinstance, against your vehicle.



STOWAGE



YOUR VEHICLE'S TM's SPELL OUT LOUD AND CLEAR HOW AND WHERE YOU STOW ALL THE TYPES OF AMMO AUTHORIZED FOR ITS WEAPONS—SMALL ARMS ON UP. HERE'RE A COUPLE KEY THINGS TO REMEMBER...

When stowing big stuff in the ready rack, make sure the primer's seated in its cups. Then secure it with the spring-loaded holder.

You put rounds in the stowage rack fuze first. Then secure the hinges.

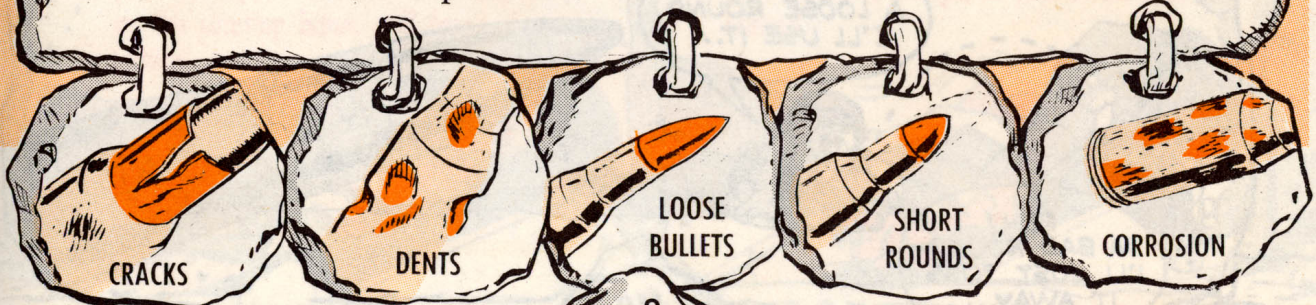
You put rounds in the stowage trays base end first.

NATCH, YOU MENTALLY STAMP "HANDLE WITH CARE" ON ALL THESE OPERATIONS.

INSPECTION

Double-checking ammo in storage and as you handle it—and especially before you go to load your piece—is a life-saving habit every guy should develop. Look mostest for dirt and damage and rust.

On small arms ammo, watch out for short rounds (the bullet too far back in the case), loose bullets, dents and burrs on cartridges, season cracks in cases, corrosion or chemical deposits on cases—stuff like that.



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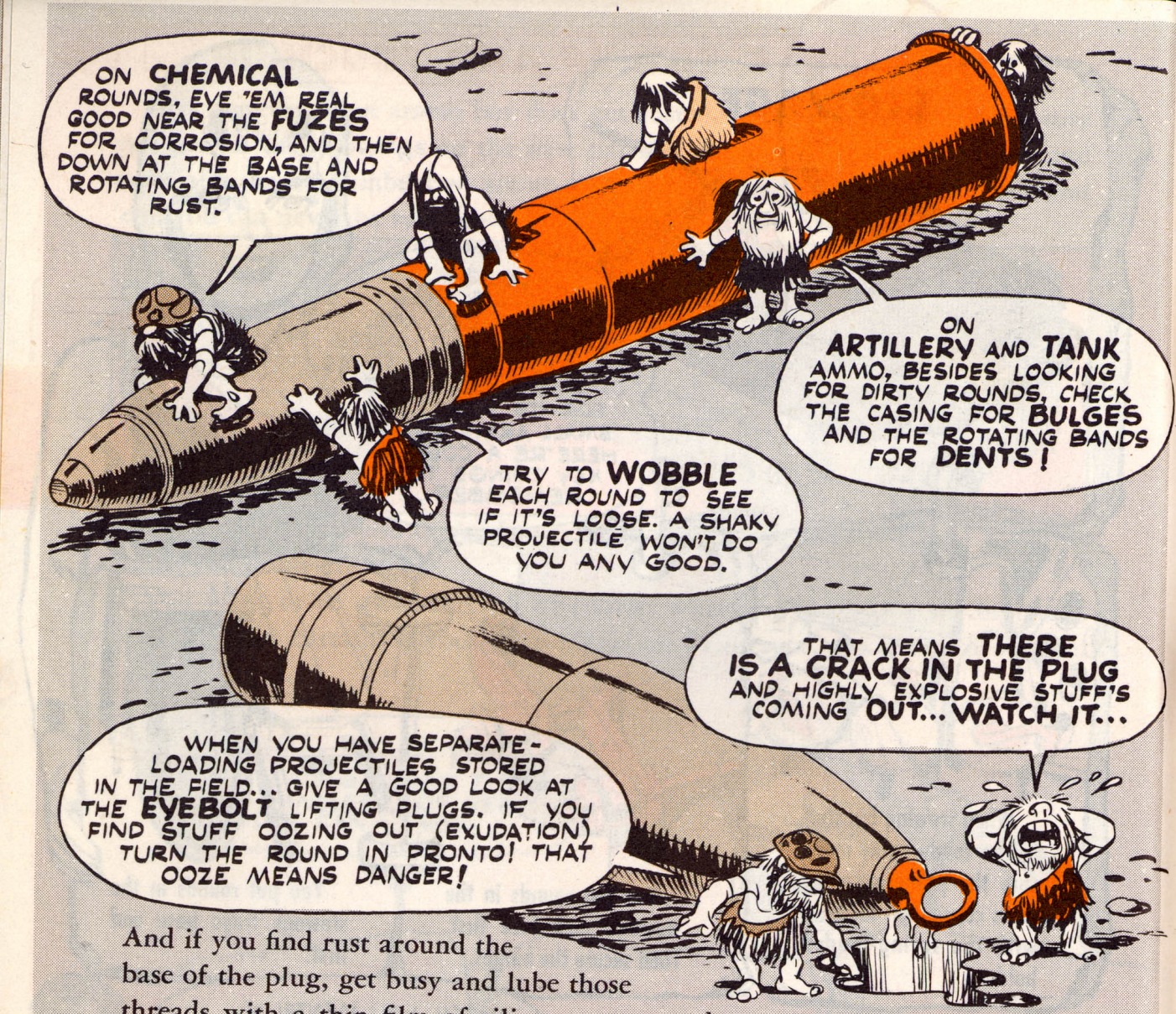
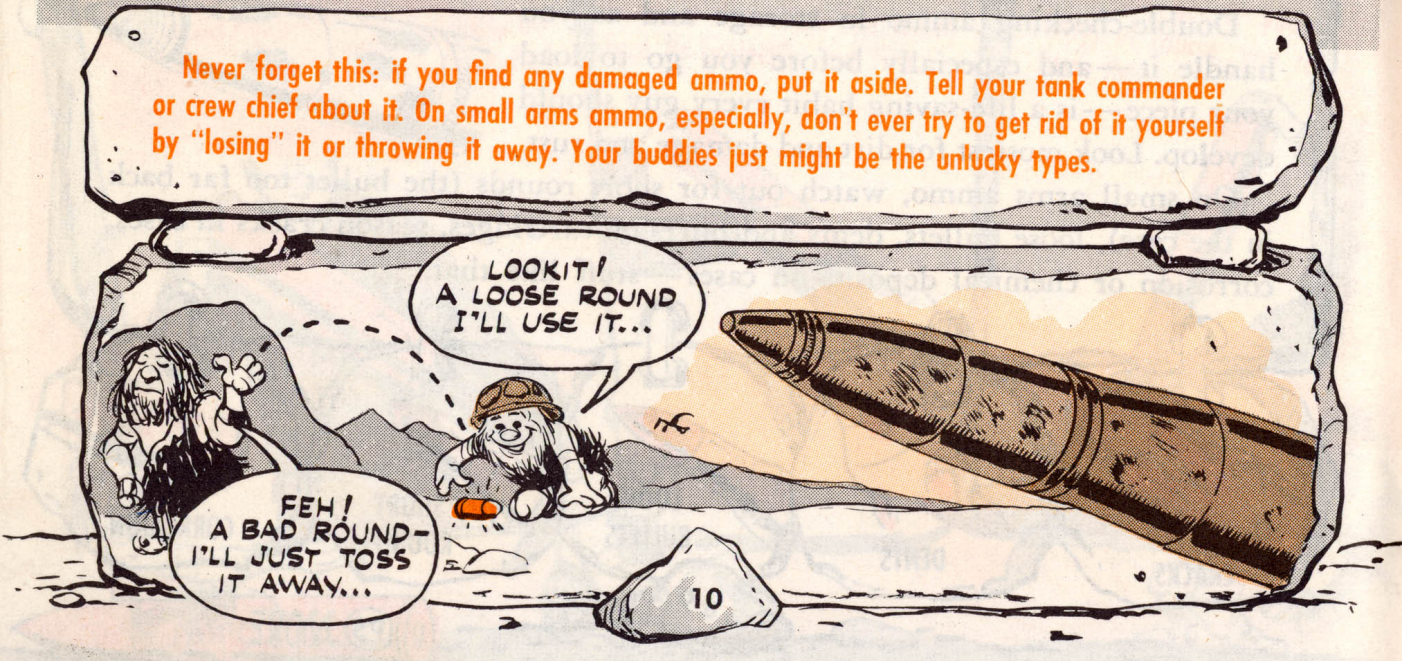
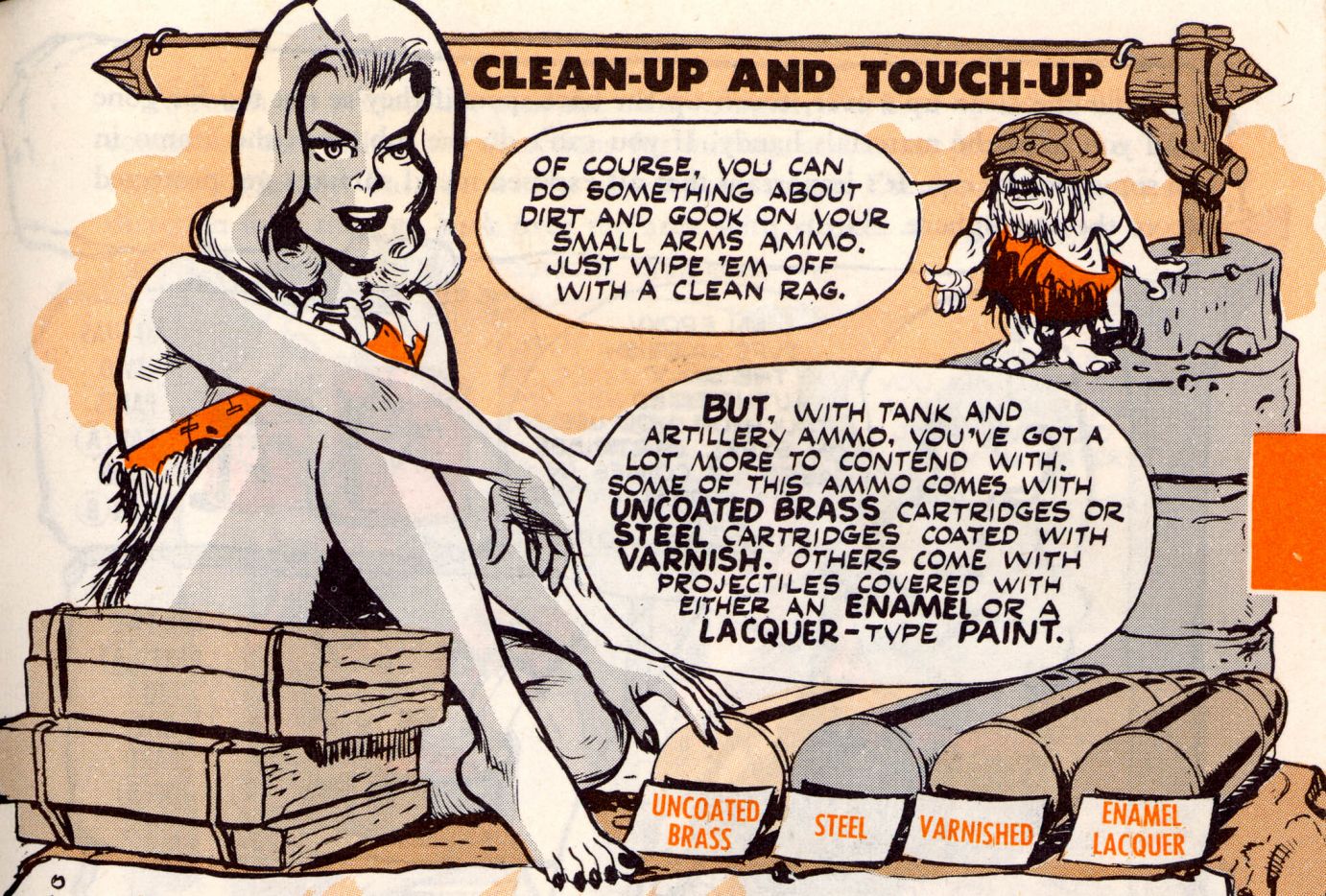


And if you find rust around the base of the plug, get busy and lube those threads with a thin film of silicone compound or a light rust-preventive compound. But, like it says in para 11m of TM 9-1300-203 (Aug 60), be sure it's a **thin** coat.

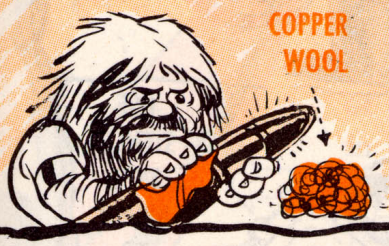
Never forget this: if you find any damaged ammo, put it aside. Tell your tank commander or crew chief about it. On small arms ammo, especially, don't ever try to get rid of it yourself by "losing" it or throwing it away. Your buddies just might be the unlucky types.



CLEAN-UP AND TOUCH-UP



No matter how they come, though, you have to get rid of dirt and gook so that you can look for defects like rust, corrosion, paint blisters or bare spots . . . or any of the other things that could wind you up with damage or failure.



A brass cartridge, of course, is no real problem. A clean rag'll get rid of the dirt and gook and copper wool will remove the corrosion. After that, just wipe it off with a rag dampened with solvent and let it dry. You don't have to worry about touching up the brass.

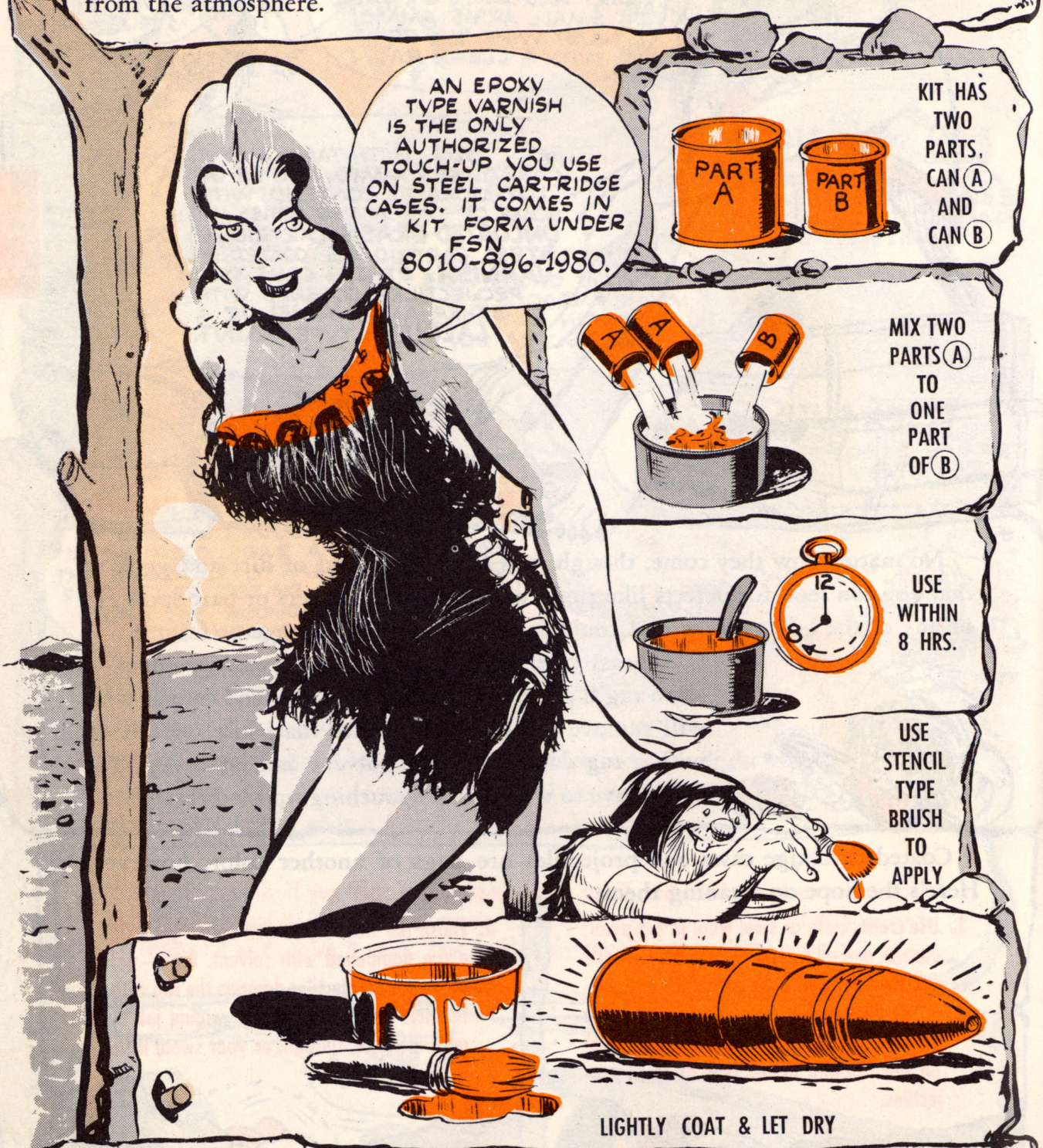
Coated cartridge cases and projectiles are nags of another color, however. Here's the dope on cleaning them:

1. Use crocus cloth or steel wool to get paint, varnish and all foreign matter off corroded or rusty spots on both cartridges and projectiles. But here's one slight hitch: Be sure you use copper wool (and nothing else) on the rotating bands and fuzes of projectiles.

2. Finish the cleaning job on cartridges with a rag dampened with solvent. But — get this! — on projectiles dampen the rag with thinner. Do a real thorough wiping job in each instance, though, or your sweat'll be wasted.

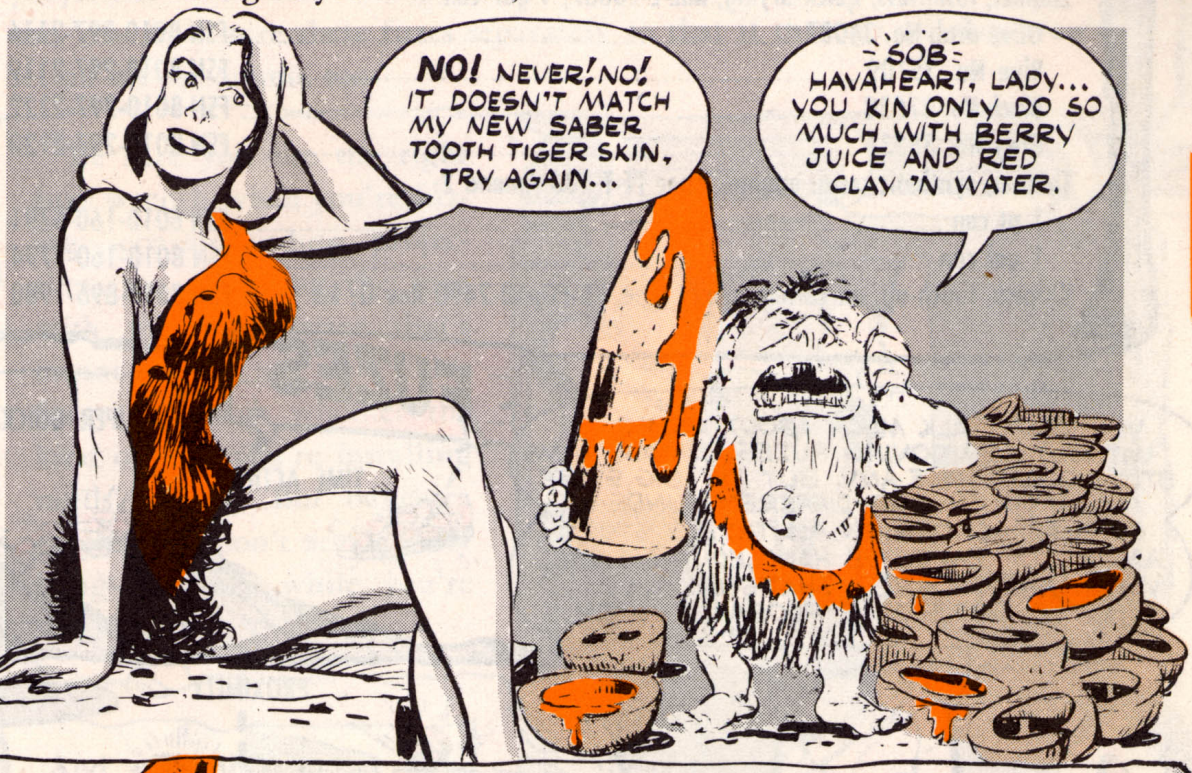
PS MORE

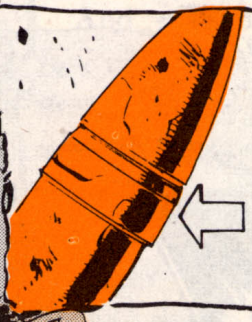
After the clean-up's over, touch up the bare spots if they're not too far gone and you have the materials handy. If you can't do the job, turn the ammo in so someone else can. It's important that all exposed metal surfaces get protected from the atmosphere.



Out in the boondocks, if you can't get hold of this epoxy-type kit, just cover the cleaned area with a light coat of corrosion preventive compound . . . Spec MIL-C-11796A. But don't use any other varnish than the epoxy-type, hear?

To touch up projectiles, pick the color enamel you need to match the area concerned and follow the directions for mixing, and so on. You can use 'most any brush handy, but one with a chisel point's best. Use short strokes in one direction first, then go back over the area with strokes at right angles to the first. This should give you a smooth, even coat.

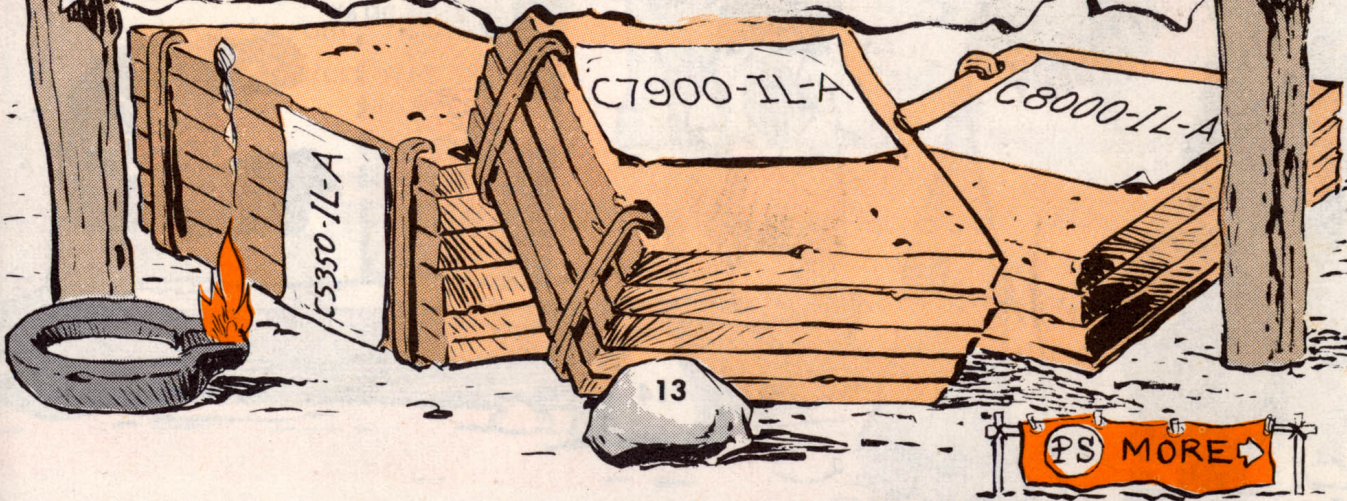




You want to be careful in this touch-up business that you don't get the paint on too thick, especially over the bourrelet of projectiles. This could cause trouble in seating the round in your weapon. And look out for painting over stenciled markings on the rounds. If you do cover a marking, be sure you restore it pronto.

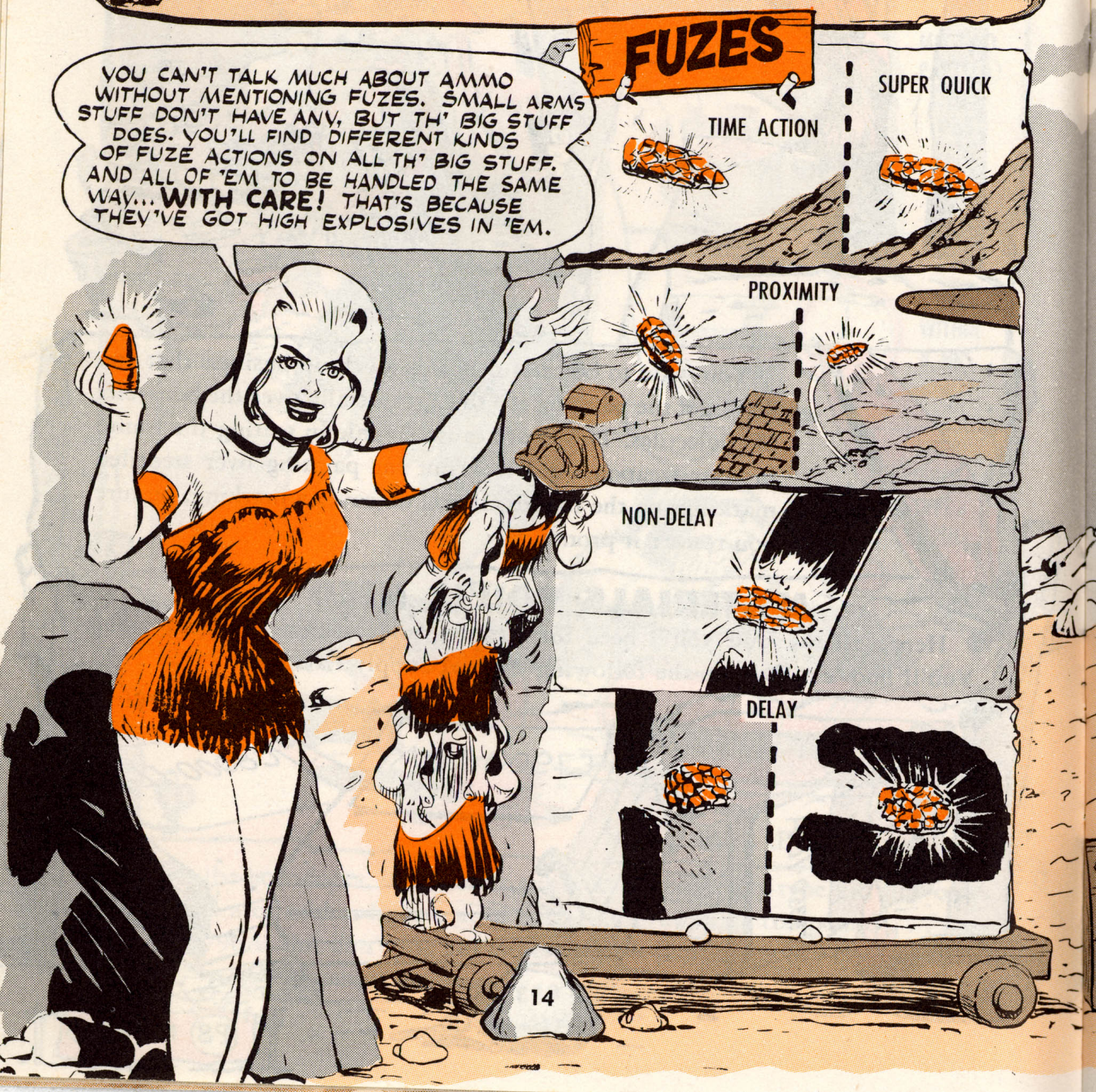
MATERIALS YOU'LL NEED

Here's all the stuff you'll need for cleaning and touching up your ammo. You'll find 'em listed in the following Federal Supply Catalogs:



PS MORE

Crocus cloth — 50-sheet sleeve	FSN 5350-192-5052
Copper wool — 1 lb tube	FSN 5350-255-7736
Wiping rag, bleached — 5 lb bag	FSN 7920-234-8465
Compound, corrosion preventive, Spec MIL-C-11786A — 5 lb can	FSN 8030-231-2353
Enamel, lusterless, quick-drying, MIL-E-10687, 1 gal can:	
Olive drab No. 34087	FSN 8010-297-2116
Blue No. 35109	FSN 8010-297-2119
Black No. 37038	FSN 8010-297-2122
Gray No. 36231	FSN 8010-297-2120
Thinner, synthetic resin: enamel, Spec TT-T-306 Amend 2:	
1 pt can	FSN 8010-160-5791
1 gal can	FSN 8010-160-5794
Varnish, touch-up, air curing, epoxy type, FA-PDpMI-2490 Rev 0; kit	FSN 8010-896-1980



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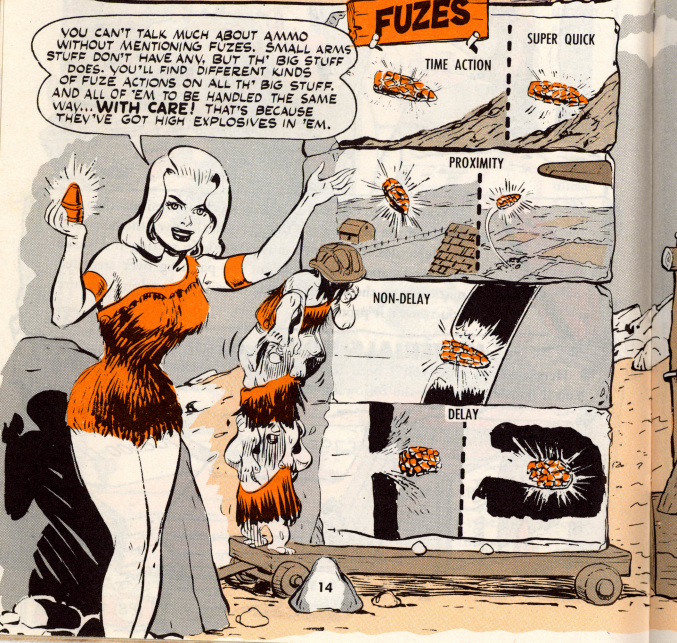
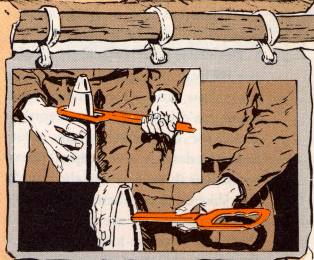


Here're a couple things you want to remember about fuzes:

You store 'em just like ammo — protected from the sun and everything else that makes heat, and especially all kinds of moisture.

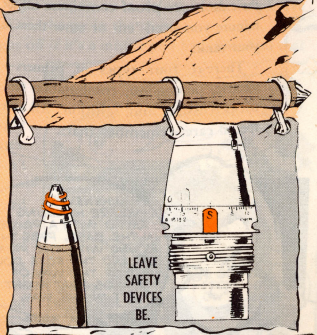
Keep separately-issued fuzes — the kind that screw into separate-loading projectiles — in their airtight containers till just before you're ready to use 'em. And store these fuzes separately so that if they go off they won't set off all the ammo, too.

Be sure you use the right fuze wrench when you're fuzing separate-loading projectiles, too. Then set the fuze with the fuze setter that's meant for the job. And don't forget to check whether the kind of fuze you're installing needs staking. But be extra careful you don't accidentally bang the fuze while you're staking it.



And remember to set the fuze in the direction of increasing readings. And — if you want to reset or return the fuze to safe, keep turning in the direction of increased readings.

After the ammo's been fuzed, don't pull the safety wire from the fuze till just before shooting away. Then, if something comes up so's you can't fire the round right away, replace the safety wire immediately.



And, pal, always remember what curiosity did to the cat. Never try to take a fuze apart. Only authorized ammo people can do that.

PS MAGAZINE

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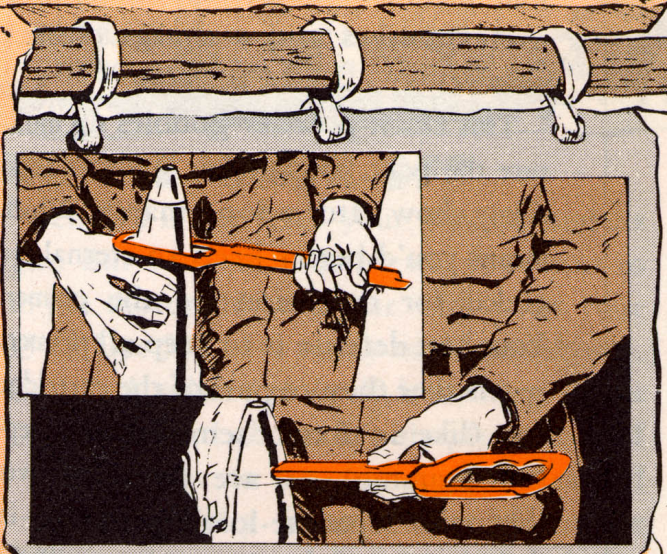

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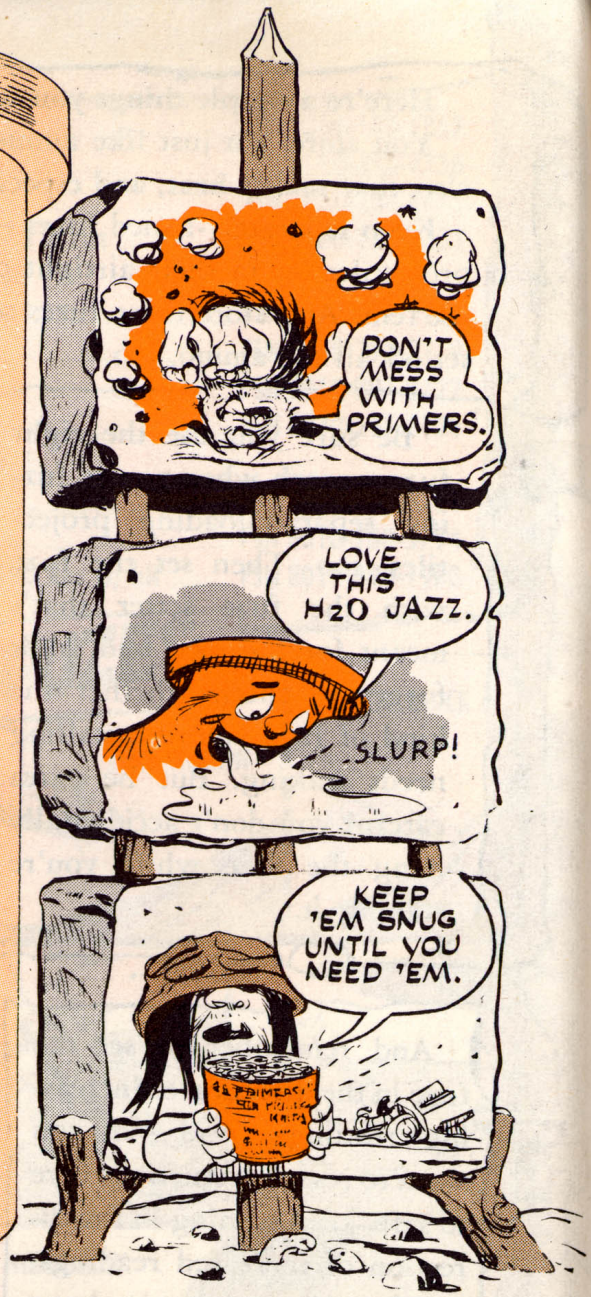
PS MORE

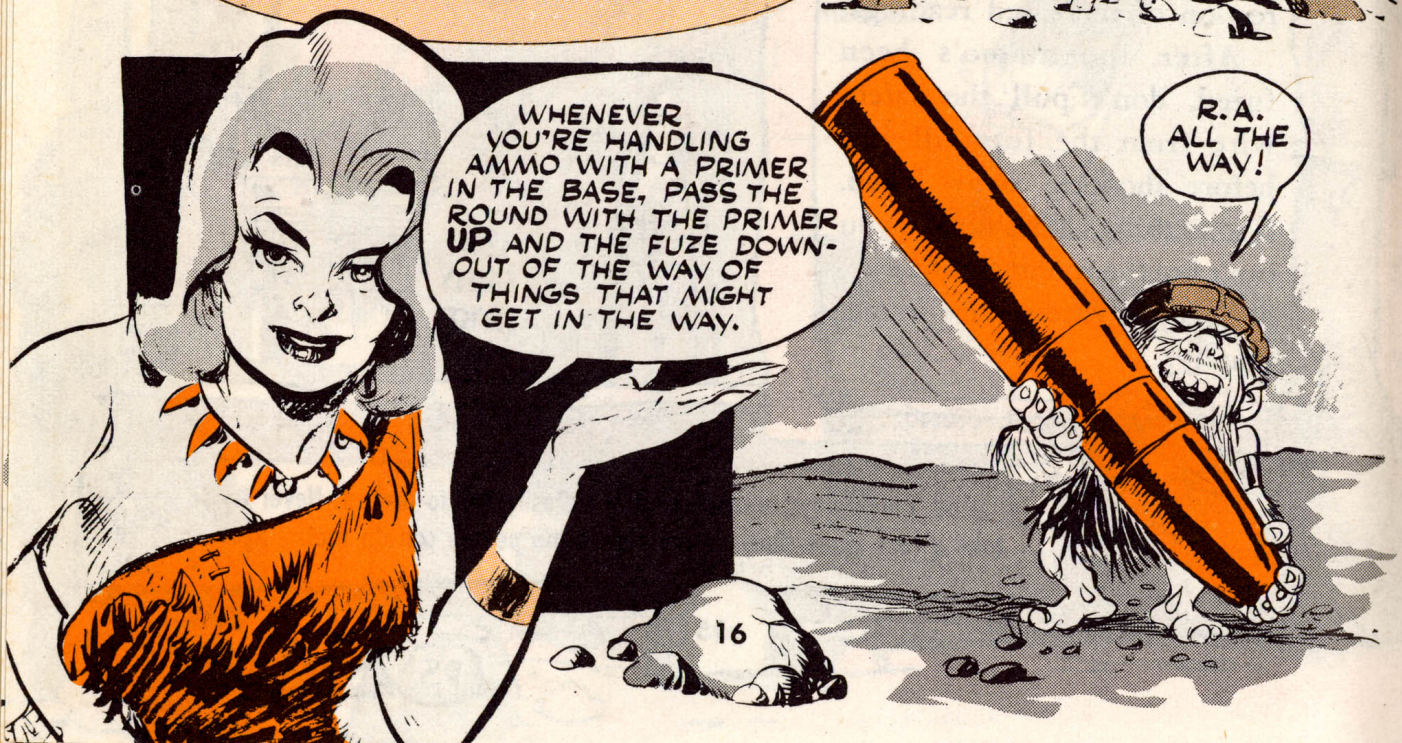
PRIMERS

Primers are another thing that demand your mostest respect. You'll find 'em on all kinds of ammo — small arms stuff included. Primers contain sensitive explosives and a charge of black powder.

This black powder gobbles up moisture the way you gobble up that good Army chow after a long march. Which means you'd better keep an eternal eye peeled for corrosion on the primer. Your best defense is to keep all primers — whether they're part of the cartridge case (like in fixed, semi-fixed or separated ammo) or are by themselves (like with separate-loading stuff) — in their moisture-proof containers till the minute you need 'em or stow them in your tank.

There're four types of primers — electric, percussion, combination electric-percussion and ignition. All take special care, remember that.





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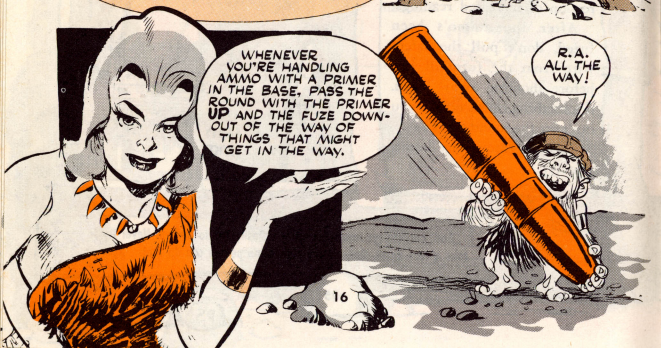
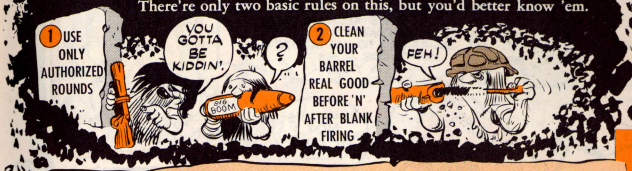


BLANKETY BLANK CARBON

A word or two are also in order on firing blank ammo in small arms. There're only two basic rules on this, but you'd better know 'em.



MISFIRE, HANGFIRE, COOK-OFF

You'll rarely be haunted by these weirdo's if you keep your weapon and its ammo in top shape and use 'em right. But when trouble brews, you want to be prepared. That's why you want to get thoroughly familiar with what your weapon's TM's, FM's and AR 385-63 (5 Dec 55) have to say on these subjects.

A misfire in itself is nothing to get hysterical about. It's simply failure of a charge to fire and could be caused by a faulty firing mechanism in the weapon or a defect in the explosive charge in the ammo.

Trouble is, you just can't tell right off if it's a misfire or a hangfire. And that may be something to worry about.

With a hangfire there's a delay in the explosion after the hammer hits the primer. This delay could be for a split second or maybe a couple of minutes. Like said, trouble is you just don't know.

So, if you pull the trigger or lanyard or press the switch and nothing happens, keep cool — but think fast. Wait a spell before opening the breech on artillery weapons . . . or bolt on small arms. Keep your weapon on target and get your buddies to scram away from the muzzle and breech ends. For the recoilless rifle or rocket launcher, especially, you want plenty of empty space to the rear.

PS MORE

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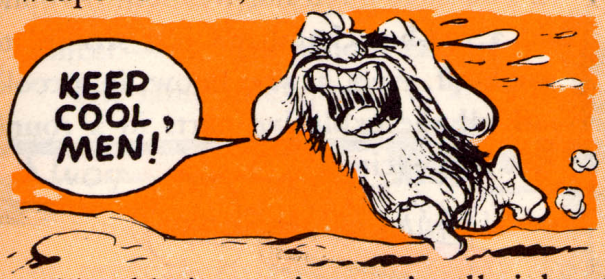

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PS MORE

THE LENGTH OF TIME YOU SHOULD WAIT BEFORE OPENING THE BREECH **OR** BOLT WILL BE DIFFERENT WITH THE DIFFERENT WEAPONS... BUT IF YOU'RE SMART YOU'LL HAVE ALL THIS DOPE AT YOUR FINGERTIPS. DON'T BE AFRAID TO MEMORIZE WHAT YOUR PUBS HAVE ON THIS.

THIS... IS **NOT** TH' WAY!

O'course, don't waste any time a-tall if you have a red-hot weapon. A round in a red-hot chamber's just sizzlin' to cook-off. And, as you know, in a cook-off all the explosive parts in a round get real excited.

POW!

Again, you've got a serious problem. More'n likely the primer or the propelling charge will cook off first. And, if either one does, the projectile will take off from the weapon without any help from you. But, if there's a cook-off in the bursting charge explosive chain, it could mean bye-bye weapon.

So, when your good sense tells you you've got the start of a cook-off on your hands, you want to handle things the same way as with a hangfire. But, if you can't fire the round or remove it, you and your crew might just as well make a break and wait for the weapon to cool down.

LIKE IT SAYS, KNOW **IN ADVANCE** WOT YOU'RE SUPPOSED TO DO IN EACH CASE, THEN DO IT!

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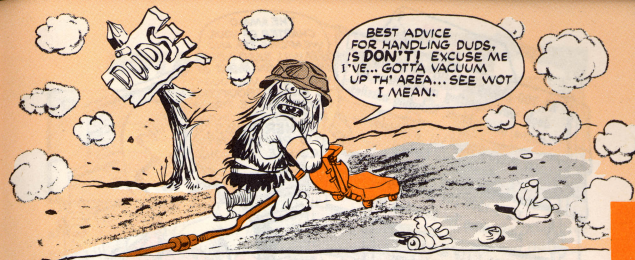


So, if you fire an artillery round or a mortar shell or maybe toss a grenade and don't hear that satisfying "whumph" of ammo hitting home, here's what you do:

Keep your hands to yourself, but put your feet and tongue to work getting the word on the double to your CO. He'll get in touch with the local Ordnance officer — the guy who'll take it from there.

The same rule applies to any old dud you may run across in training areas.

REPORTS

You pull the trigger or the lanyard or press the trigger switch, say, and poof! the round goes off as it leaves the muzzle. You've got a premature burst, or a short round, maybe. A malfunction for sure.

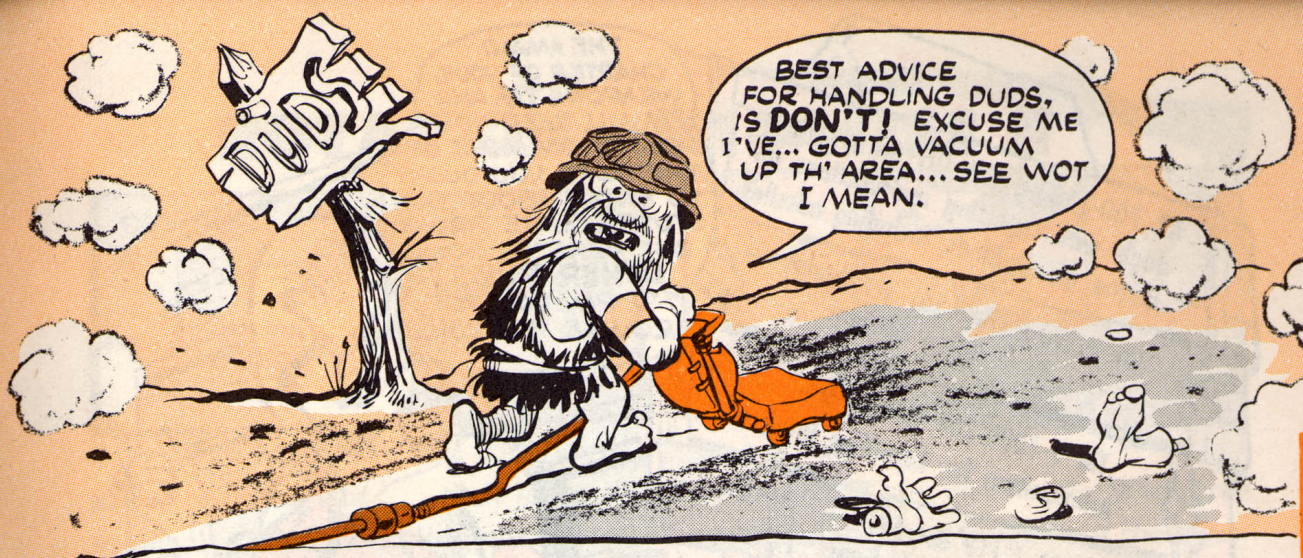
Ammo accidents shouldn't happen, but they might. And when they do, you want to be ready to come up with the right answers.

That's why you'll be smart to get yourself and your crew familiar with AR 700-1300-8, which has all the scoop on how to report malfunctions involving ammo and explosives, including the missile stuff.

You won't have to fill out any forms, but you'll dish out the dope that goes into the report. The more facts you tell the man who comes around, the better your chance of avoiding the same ammo trouble in the future.

Naturally, when you run into a malfunction or accident, your CO or range officer will suspend the ammo with the backing of the local Ordnance officer.

PS MORE



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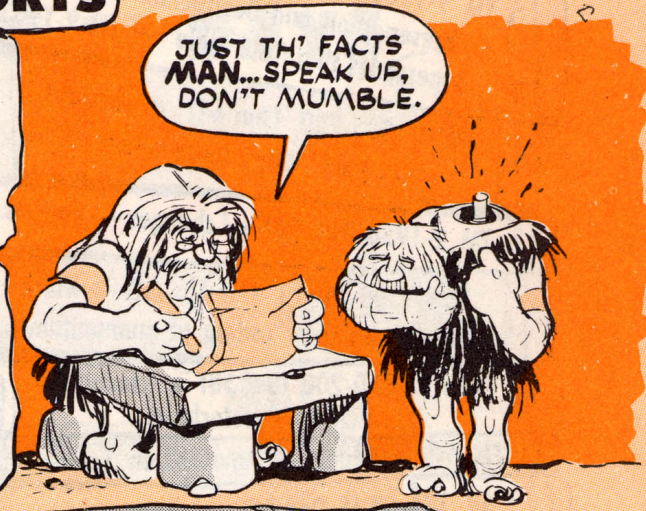

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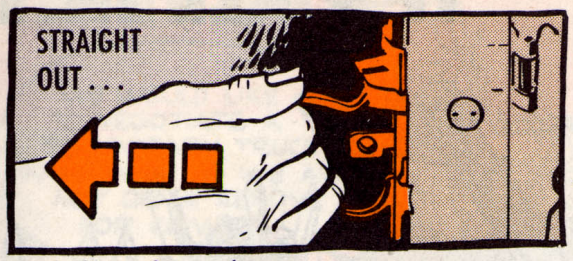
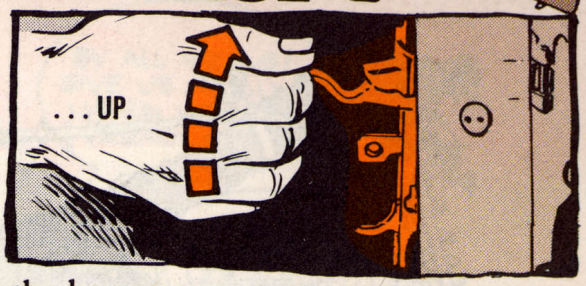
PS MORE

AMMO PUBS
AR 700-1300-8 (11 Oct 60) — which deals with reporting malfunctions on — ammo of all kinds, including missiles.
TM 9-1900 (Jun 56) w/ changes — Ammunition General
TM 9-1300-204 (May 59) — Ammunition for Recoilless Rifles
TM 9-1901-1 (18 Dec 57) — Ammunition for Aircraft Guns
TM 9-1300-205 (Sep 60) w/ changes — — Ammunition for Mortars
TM 9-1300-203 (Aug 60) w/ changes — Ammunition for Aircraft, Tank, Antitank and Field Artillery Weapons
TM 9-1300-206 (Nov 64) — Care, Handling, Preservation and Destruction of Ammo. Supersedes that "old bible" — TM 9-1903.
TM 9-1305-200 (Jun 61) w/ changes — Small Arms Ammunition
TM 9-1950 (Feb 58) w/ changes — Rockets
TB 9-1300-246/1 (13 Apr 64) — which deals with color coding of ammunition
TM 9-1370-200 (Dec 58) w/ changes — Military Pyrotechnics
FM 9-5 — Ordnance Ammunition Service
AR 385-63 (5 Dec 55) w/ changes — which talks about ammo safety
ASubjScd 6-1 — Care and Handling of Ammunition
THE AMMO CHAPTER OF YOUR WEAPONS TM AND FM WILL KEEP YOU POSTED ON MOST OF THE DOPE YOU OUGHT TO KNOW ABOUT THE STUFF YOU'RE FIRING, BUT HERE'RE SOME OTHER PUBS IT'D PAY YOU TO BROWSE THROUGH...
TRAINING FILM 9-2120 AMMUNITION STORAGE AND HANDLING
Wouldn't do to end a piece like this without getting in a plug for giving a break to the boxes, barrels and other containers your ammo comes in. It won't cost you an extra minute to handle 'em gently or open 'em right or keep 'em in shape for another tour with a batch of goodies. The payoff is a steady-moving ammo supply line. Besides, it'll save Uncle some of your hard-earned dough-re-me.
20
PS END

ROTATION—M14-WISE





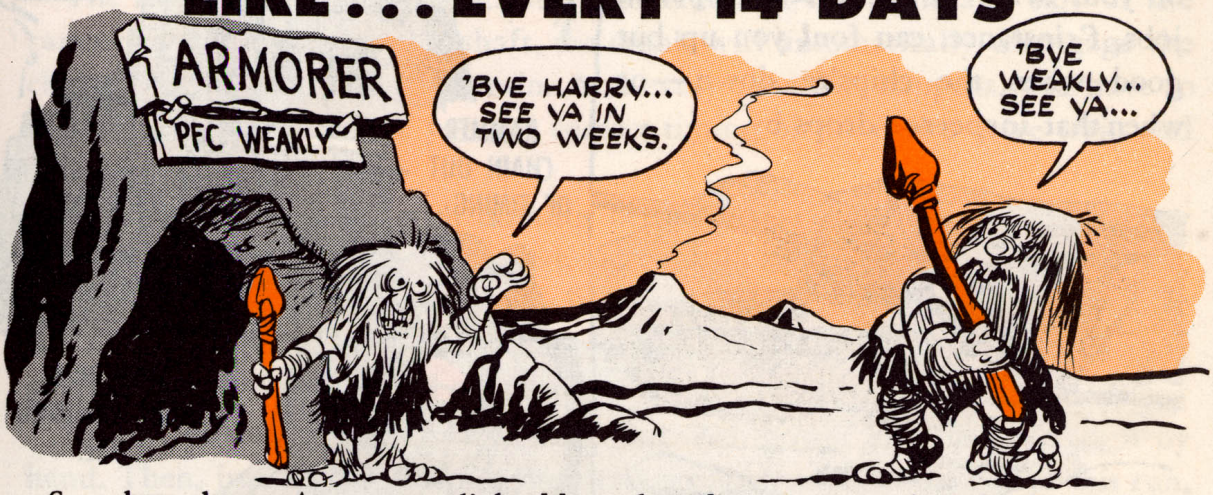
A lot of M14's are still complaining about battered ribs . . . so it looks like some guys need reminding not to rotate the trigger guard more than 90 degrees when removing the firing mechanism.

The trick is to pull straight out and then up on the trigger guard, not straight up. And stop the arc short of 90 degrees—before you feel any metal-to-metal contact between the cocking stud on the guard and the bottom of the hammer.

Because, if you go over the 90-degree mark and then try to take out the housing, you can beat up the ribs or keyways on the side of the firing mechanism housing. This'll guarantee a tougher job next time you go to remove the housing.

'Course, it's all spelled out in para 48d and Fig 30 of TM 9-1005-223-12 (8 Feb 65). Why not take a look-see?

LIKE . . . EVERY 14 DAYS



Say, hey there, Armorer, ol' buddy, what do you mean by "bi-weekly"—every two weeks? . . . twice a week? . . . twice a month?

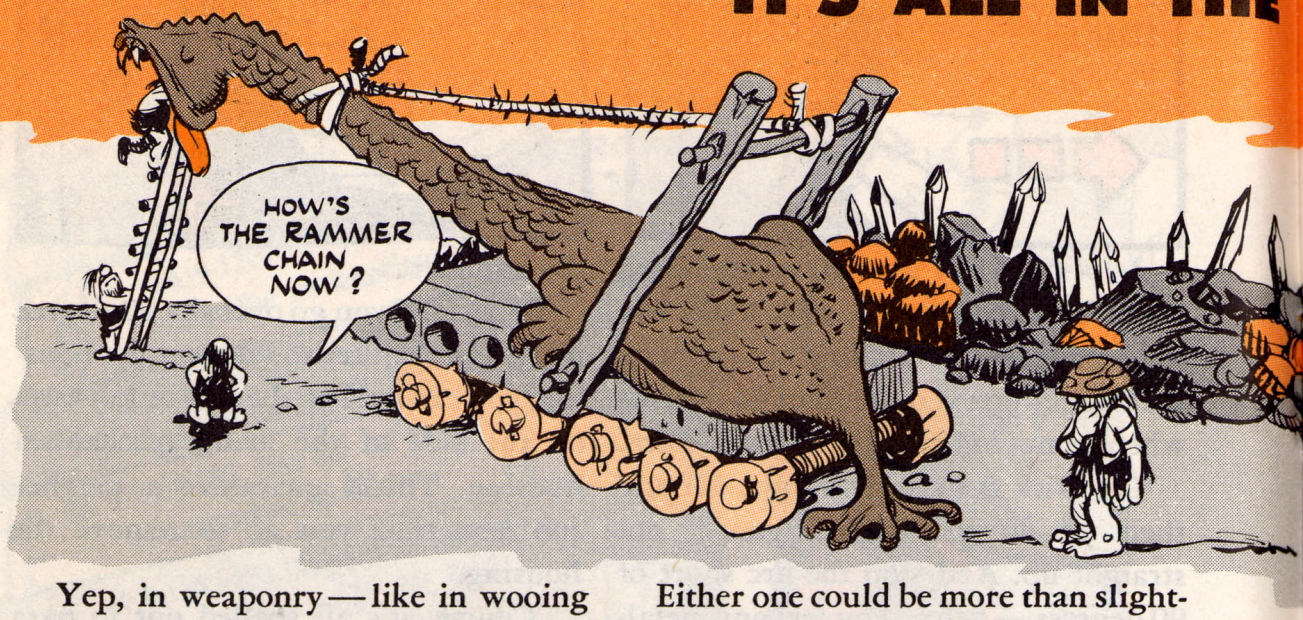
Don't blush. Even Webster's kinda vague on this one.

But for the sake of your M14 and M14E2 rifles, you'd better get your meaning in line with what the new TM 9-1005-223-12 (Feb 65) means in your PM checks and services schedule—which is: every two weeks . . . fortnightly, like Gramps used to say . . . or just plain every 14 days.

Yup, your schedule's been changed from weekly to bi-weekly, which means at least every two weeks under normal operating conditions, but oftener when you're operating in weather or climate that's real tough on your weapons.

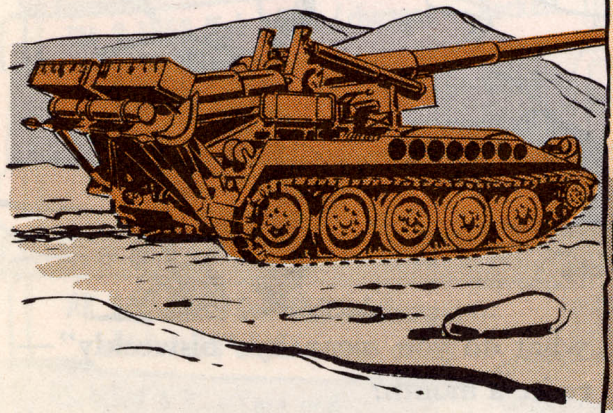
WHEN LOADER-RAMMING YOUR M107 OR M110 SP . . .

IT'S ALL IN THE



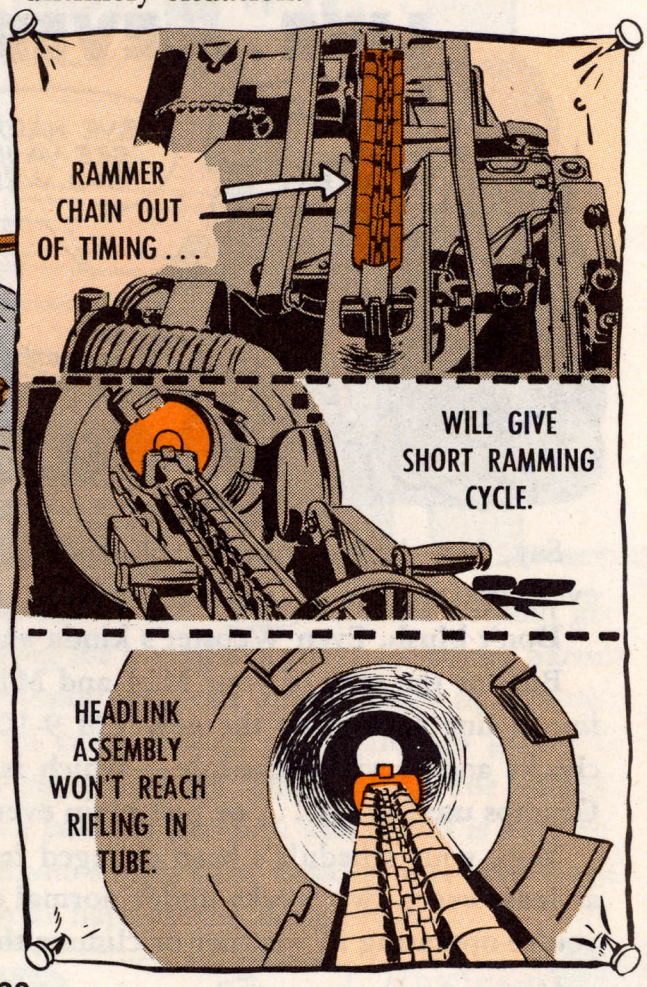
Yep, in weaponry — like in wooing and sports and 'most everything — timing's extra important.

A rammer chain that's out of timing on your M107 or M110 self-propelled jobs, f'rinstance, can foul you up but good when the chips're down — or when that inspector drops by.



It'll give you a short ramming cycle — which means in a firing situation that power operation won't extend the chain far enough to seat the projectile in your 175-mm or 8-incher's tube. In an inspection deal, it means power operation won't let the headlink assembly reach the rifling in the tube.

Either one could be more than slightly embarrassing. So, have a seat and absorb the causes and cures for this untimely situation.



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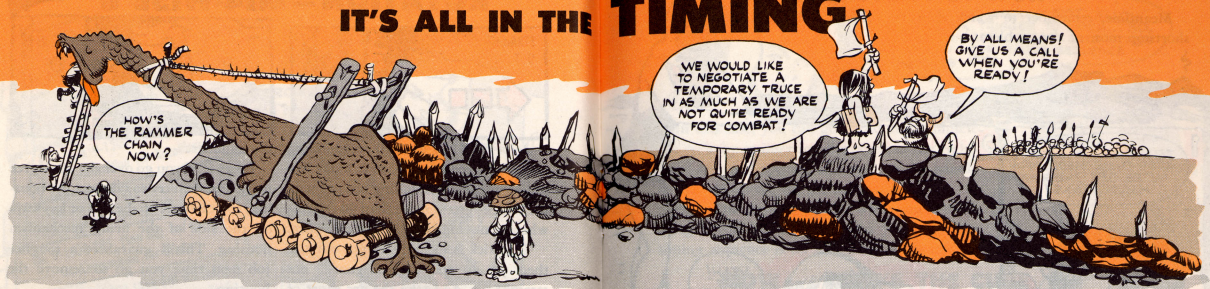

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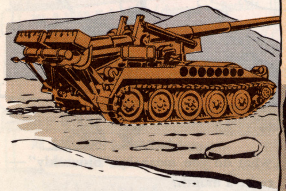

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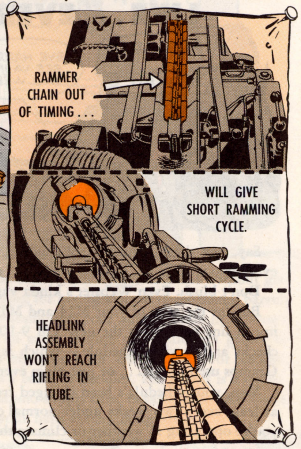


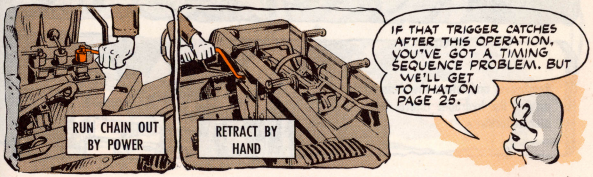
HOW IT CAN HAPPEN

All things being equal, you'll only have timing sequence trouble in the rammer chain if somebody fouls up the manual operation — the operation, incidentally, that's your insurance in case of hydraulic failure.

The moment that anybody sticks a handcrank in the righthand side of the rammer chain drive sprocket shaft, the crank will automatically disengage the chain sprocket from its drive train. And every time this happens, you have to doublecheck to make sure you get correct timing of the entire drive train and chain sprocket.

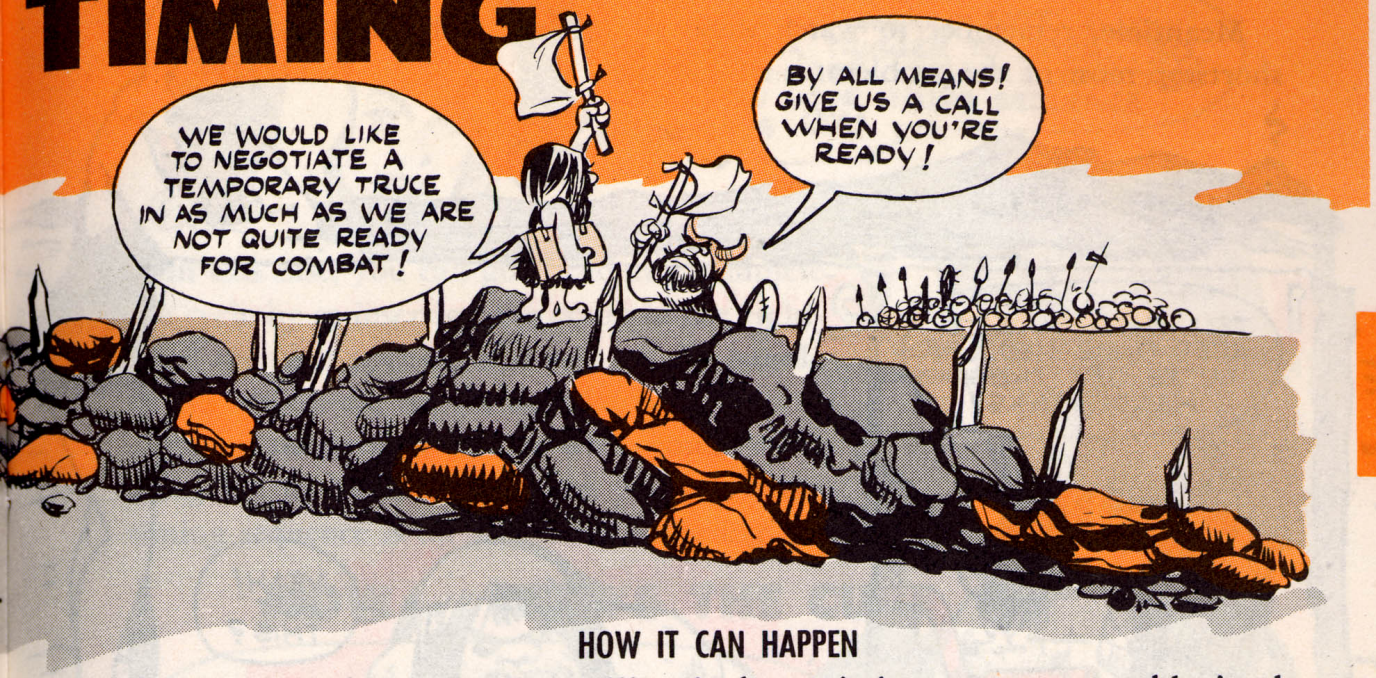
Joe Blow over there, with nothing better to do, could do the whole crew dirt by absent-mindedly poking the handcrank in that right hand opening. Or, you could be the culprit yourself — just by being a mite careless when you're checking the operation of the manual rammer while doing your daily, weekly or quarterly PM checks and services.

Right, you just might run the chain out with power and then retract it by hand. Then, just because the headlink trigger latches OK at the end of this run, you might get the idea that everything's peachy-dory. **N-e-g-a-t-i-v-e !!!**



MORE

TIMING



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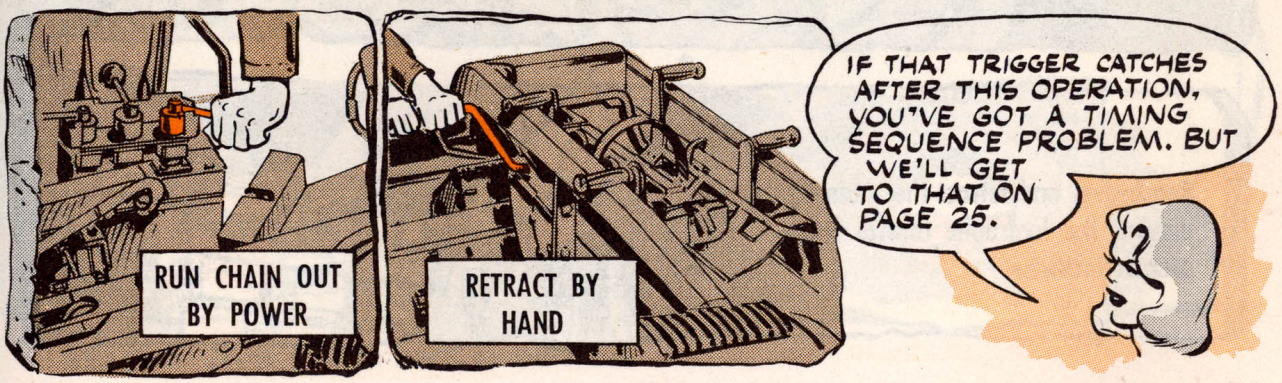


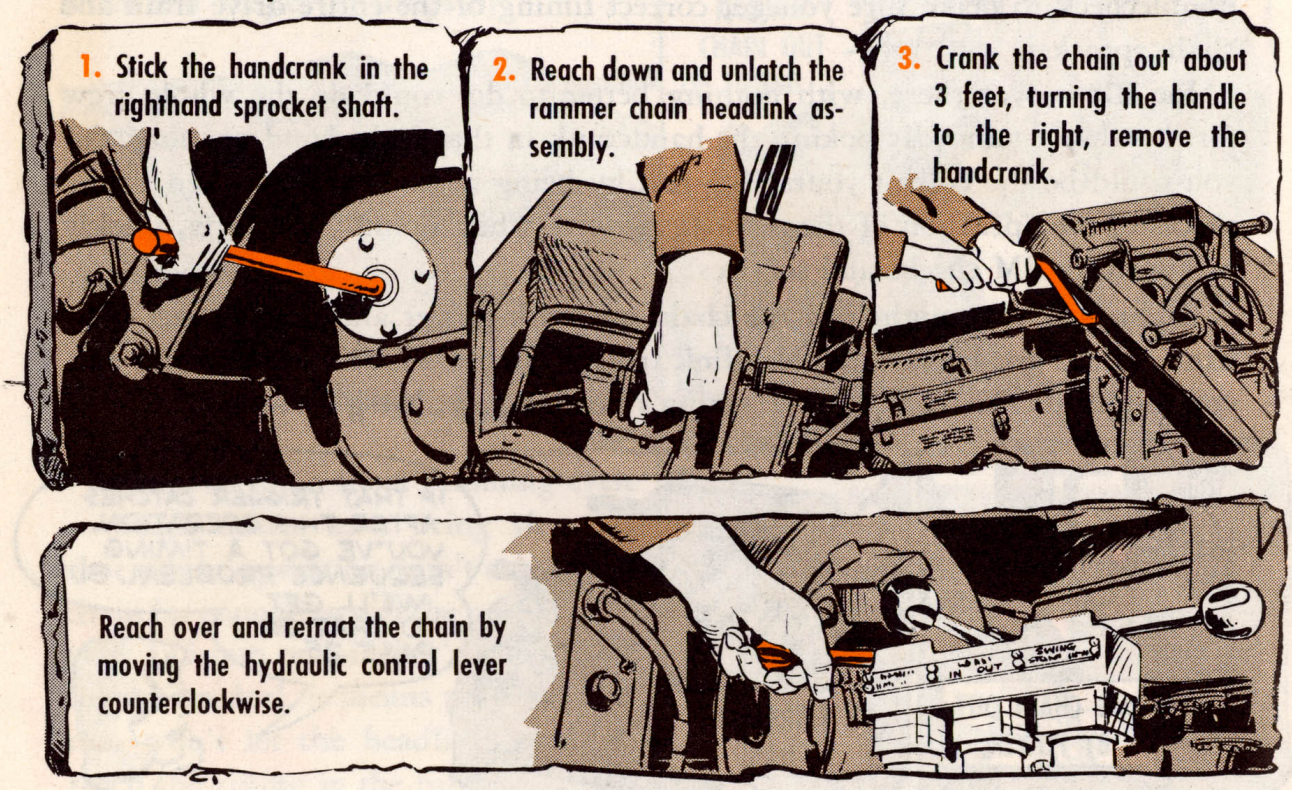
P.S. MORE

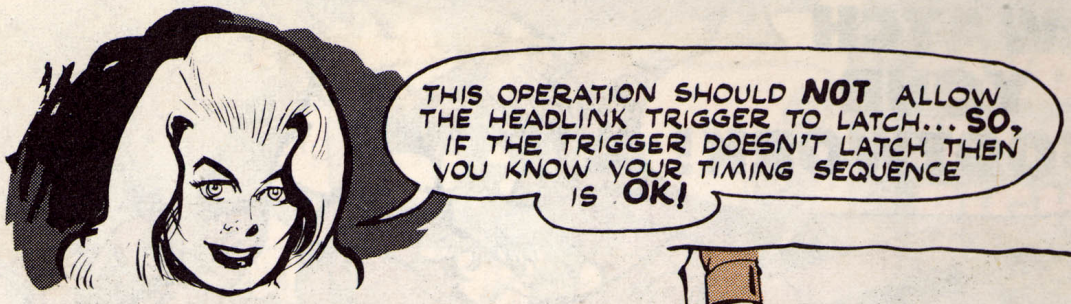
HOW TO PREVENT IT

Meantime, remember to watch these two things and you'll shortstop most of the problem:

HOW TO CHECK YOUR TIMING

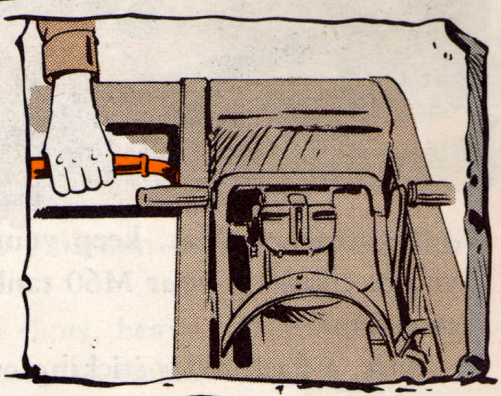
OK, now supposing you're not sure whether your timing's good or bad. Here's the way to make sure:



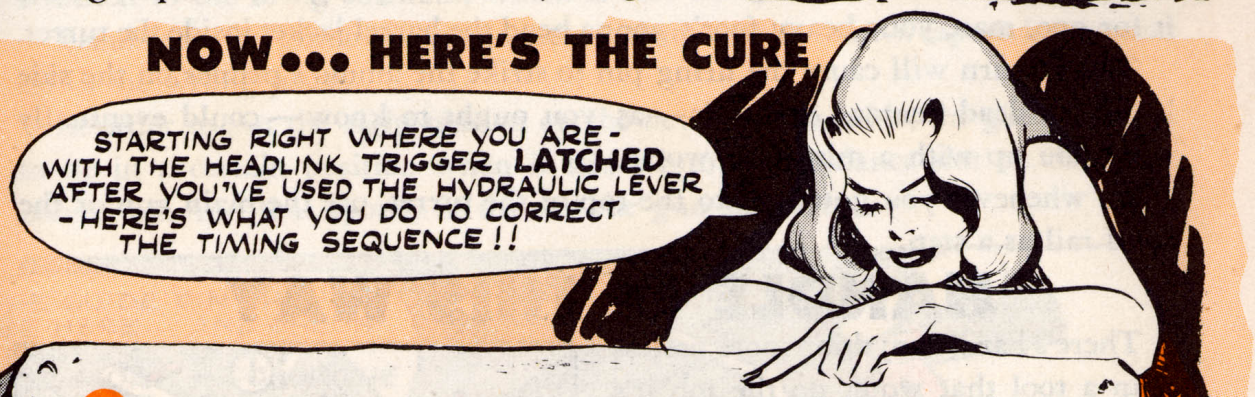


In this case, you can go ahead and complete the cycle by re-inserting the crank in the right-hand sprocket opening and turning the handle to the left till the trigger does latch.

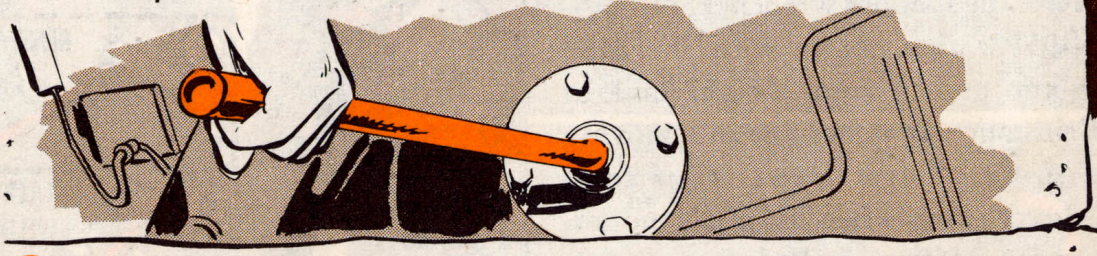
But, if the trigger latches while you're operating the hydraulic lever, then you know the timing sequence is off and needs adjusting.



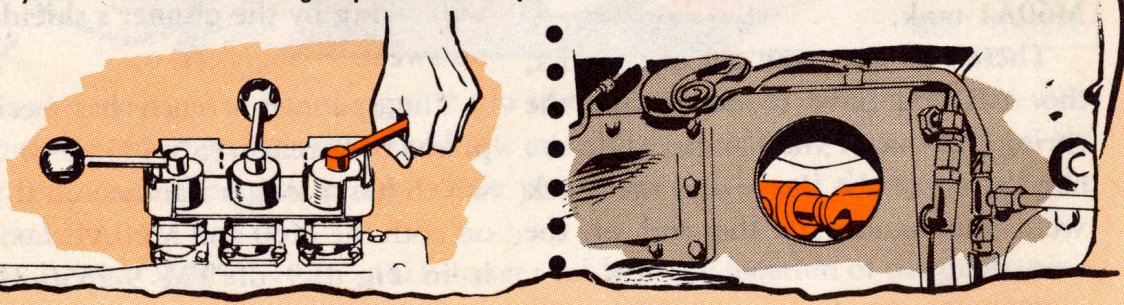
NOW... HERE'S THE CURE



1. Get a buddy to stick the handcrank in the righthand side of the rammer chain drive sprocket shaft . . . and tell him to hold it there.



2. You retract the hydraulic lever and keep it retracted till the piston rod down below there stops moving. You can watch it move by looking in the rammer case. When this happens, your rammer chain timing sequence will be perfect. Remove and stow handcrank.



That's it. Now you're back in business.

F'goshsakes, Mac, keep your big fat foot off that M73's flash hider when you're climbing your M60 tank's turret. You wanta put the machine gun out of action?

Sure, a flash hider sticking out like so makes a tempting step. But if you use it for one, man, your heavy foot's gonna bend the barrel jacket inside the turret.

This in turn will cause the firing pin to strike the ammo's primer on the side 'stead of dead center. And this—as you ought to know—could eventually wind you up with a misfire or worse.

So, whenever you gotta get to the top of the turret, use the main gun or the hand rail as a step.

HANDLE IT THIS WAY

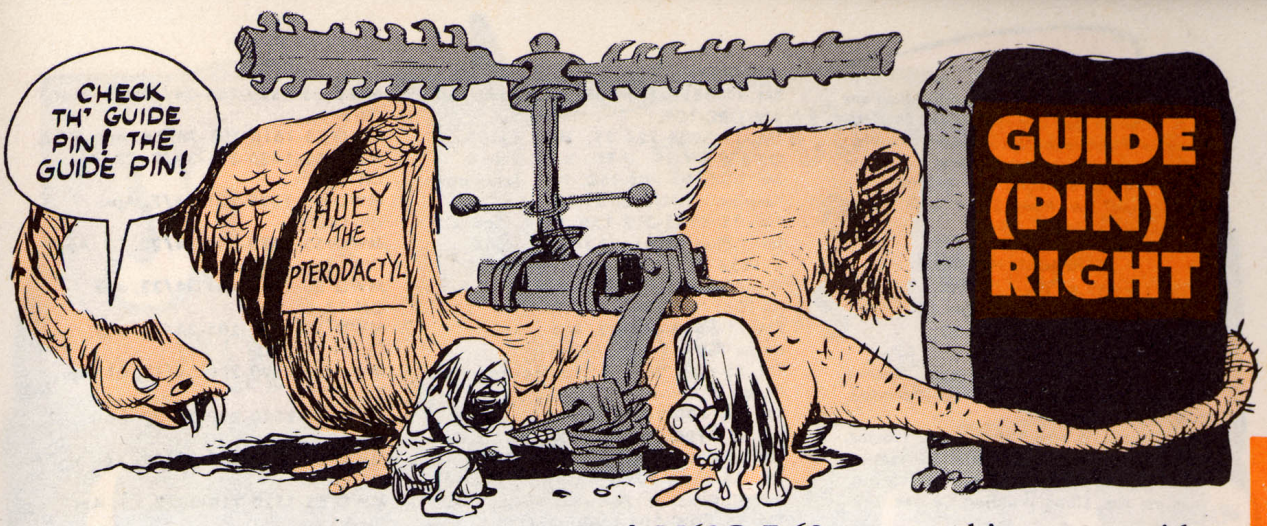
There's hardly anything more useless than a tool that won't do the job it's supposed to.

Take the spanner wrench, FSN 1015-894-9583, that comes with the M86 105-mm gun in your M60A1 tank as a f'rinstance. It works fine in removing the firing plunger insert collar from the breech ring when the gun's mounted in the M60 tank. But the gunner's guard gets in the way of the wrench handle when you're working in the M60A1 tank.

There's an easy way out of your fix, tho. All you have to do is take the spring pin out of the handle, slide the handle out of the sleeve and then tack weld the handle to the end of the wrench.

With this kind of setup, the handle will swing by the gunner's shield with no sweat.

The spanner wrench has been replaced by Wrench, FSN 4933-740-0447, which has a longer handle and'll work on both the M60 and M60A1. Look for it in Fig B-9 of TM 9-2350-215-10 (Feb 65).

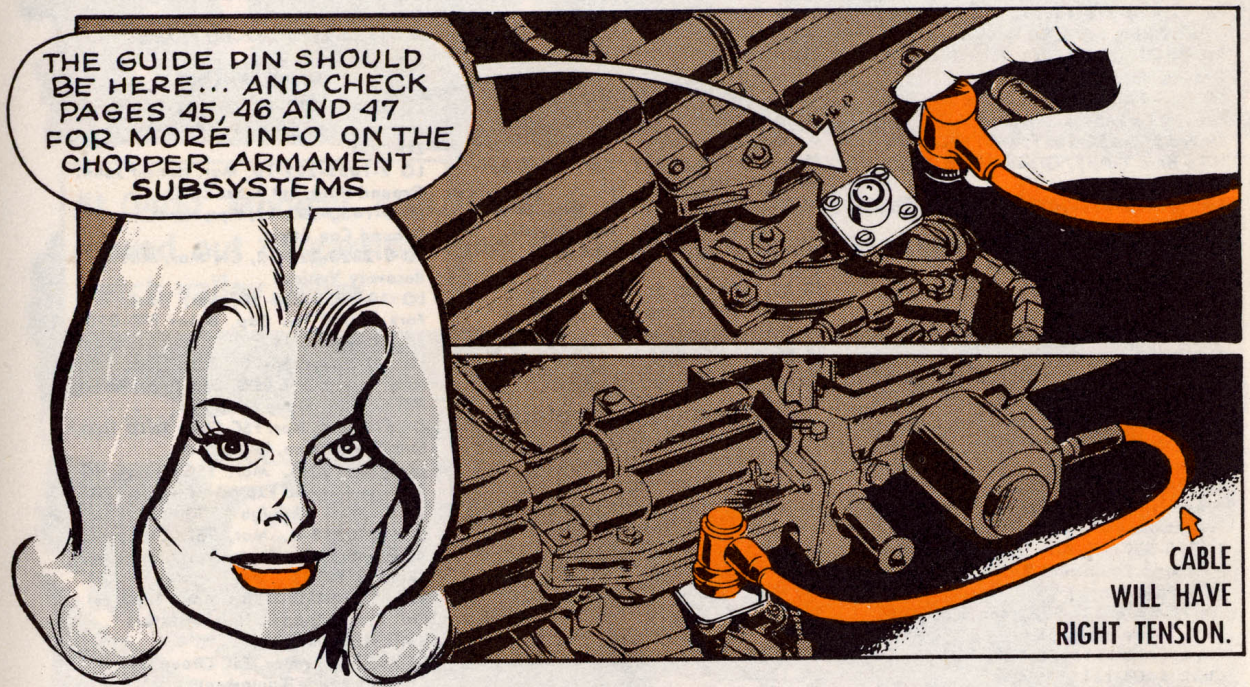


OK . . . so you've got the latest quad M60C 7.62-mm machine guns with your helicopter-mounted M6 subsystem.

You know you do 'cause each shooter has a short, heavy, reinforced cable attached to the firing solenoid, which is also new. It's round.

Trouble is, the guide pin in the receptacle mount on some weapons has wound up in the wrong place.

In order to put the right tension on the new, shorter cable, the guide pin has to be in a certain position when it slides into the guidance slot on the cable connector. And that spot is in toward the gun support.



It's easy enough to put the guide pin in the right place. All you have to do is remove the four screws that hold the receptacle in the bracket . . . turn the receptacle until the guide pin is where you want it . . . and then put back the four screws.

The earlier M60's have a much longer cable so the location of the guide pin's not so important.

A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins. For complete details see DA Pam 310-4 with latest changes.

TECHNICAL MANUALS

TM 1-CH37-5, Mar, CH-37
TM 1-OH-23C-6, Mar, OH-23.
TM 1-OH23-5, Mar, OH-23.
TM 1-UH1-5, Mar, UH-1.
TM 3-1040-219-20P, Mar, Service Unit, Flame Thrower, Truck-Mounted, M4A2.
TM 5-2410-209-20P, Mar, Tractor, DED, Allis-Chalmers Model HD16M.
TM 5-3431-215-15, Apr, Welding Machine, Arc, Libby Welding Co. Inc. LEB-300.
TM 5-3431-216-15, Mar, Welding Machine, Arc, Harnischfeger WMG 300 B.
TM 5-4310-218-20P, Feb, Nike-Ajax, Nike-Herc, Corporal Air Compressors.
TM 5-4310-247-15, Apr, Comp. Rotary, DED, 250 CFM, 100 PSI Joy RPV 250 DC20MSI.
TM 5-4930-206-25P, Mar, Lubricating and Servicing Unit: Gray 251-437.
TM 5-6115-328-25P, Feb, Gen GED 2-KW, DC, 15-V; Eagle Engr CE228.
TM 9-1015-234-12, Mar, How, Light, Towed: 105-MM, M102.
TM 9-1430-250-12P/1/1, Mar, Nike-Herc, Nike-Herc (Imp), Msl Operation & Maint.
TM 9-1410-250-12P/1/1, Mar, Nike-Herc, Ground Con Equip.
TM 9-1430-376-12P/1, Apr, Pershing, Ground Hdlg Spt & Svc Equip.
TM 9-1430-377-12P/1, Mar, Pershing, Ground Hdlg Spt & Svc Equip.
TM 9-1430-501-12/2, Mar, Hawk, Ground Con Equip.
TM 9-1440-250-20/1, Mar, Nike-Herc, Nike-Herc (Imp), Ground Hdlg, Spt & Svc Equip.
TM 9-2320-218-20P, Cl, Mar, M151 ¼-ton Truck.
TM 9-2350-215-20, Feb, M60, M60A1 Tank.
TM 9-4935-253-15P/1/2, Apr, Nike-Herc, Nike-Herc (Imp) Test Equip.
TM 9-4935-380-12P/1, Apr, Pershing Test Equip.
TM 9-4935-381-12P/2, Mar, Pershing, Test Equip.
TM 9-4940-252-15P/1/1, Mar, Nike-Ajax, Nike-Herc, Nike-Herc (Imp) Test Equip.
TM 9-4940-252-15P/1/2, Feb, Nike-Ajax, Nike-Herc, Nike-Herc (Imp), Test Equip.
TM 10-500-51, Apr, Airdrop of Supplies and Equipment Rigging 318-MM Rocket System.
TM 10-3930-231-25P, Mar, Truck, Lift, Fork, Army MHE 184
Clark C40B-1615158-100,
Clark C40B-1615159-144.
TM 10-3930-234-25P, Mar, Truck, Lift, Fork, Army MHE-188, Baker FJF-040.
TM 10-3930-237-20P, Mar, Truck, Lift, Fork, Army MHE-192,
Clark C20B-1632032-100;
Clark C20B-1632033-127.
TM 11-5805-257-20P, Apr, Telegraph erminal, AN/TCC-4, -20.
TM-11-5820-204-ESC, Mar, Radio Terminal Set, AN/MRC-69(V).
TM 11-5820-474-20P, Ap., Radio Set AN/GRC-109.
TM 11-5826-224-15, Mar, CV-2B, OV-1B, OV-1C, U-8D, U-8F, RU-8D.
TM 11-5895-205-ESC, Feb, Telegraph Terminal, AN/MSC-29.
TM 11-5935-212-15P, Apr, Connectors, Plug, Elect, U-185B/G and U-185A/G.
TM 11-6625-467-12, Mar, Test Set, TS-2061/ARC-54.
TM 11-6625-601-12, Mar, Maintenance Kit, MK-733/ARC-54.
TM 55-601, Mar, Troop Movement Guide.
TM 55-1100-204-15-1, Apr, UH-1.
TM 55-1100-204-15-3, Apr, CV-2.
TM 55-1100-204-15-5, Apr, CH-34.
TM 55-1100-204-15-6, Apr, OH-13. Installations of Rammer Solenoid
TM 55-1100-204-15-8, Apr. U-1.
TM 55-1100-250-12-1, Apr, CH-37.
TM 55-1400-300-10-6, Mar, SGT, Ground Hdlg Spt & Svc Equip.
TM 55-1510-204-10CL, Feb, OV-1.
TM 55-1510-204-20 PMD, Mar, OV-1.
TM 55-1510-204-20 PMI, Mar, OV-1.
TM 55-1510-204-20 PMP, Mar, OV-1.
TM 55-1520-201-20, C4, Apr, UH-19.
TM 55-1520-201-20P, Mar, UH-19.
TM 55-1520-202-ESC, Apr, CH-34.
TM 55-1520-202-20PMI, Mar, CH-34.
TM 55-1520-202-20 PMP, Mar, CH-34.
TM 55-1520-203-20P, Cl, Mar, CH-37.
TM 55-1520-206-10, Feb, OH-23.
TM 55-1520-206-10CL, Feb, OH-23.
TM 55-1520-210-20, C2, Apr, UH-1.
TM 55-1905-203-12P, C2, Mar.
TM 55-2320-211-10-2, Apr. Transportability: Truck, Cargo, 5 Ton, 6x6, M55 and M55A2.
TM 55-5930-200-24P, Mar, 1-CA-1.

TECHNICAL BULLETINS

TB AVN 7, C4, Mar, Painting and Marking Aircraft.
TB 9-1100-300-12/1, Apr, Wpns System, OP/ORG Maint, Sgt.
TB 9-1410-250-12/1/5, Mar, Nike-Herc, Ammo (Other than Atomic Wpns), Ground Hdlg Spt & Svc Equip.
TB 55-1500-200-20/4, May, UH-1.
TB 55-1510-202-20/5, May, O-1A.
TB 55-1510-204-20/12, Apr, OV-1.
TB 55-1510-206-30/1, Apr, CV-2.
TB 55-1510-206-34/18, Apr, CV-2.

MODIFICATION WORK ORDERS

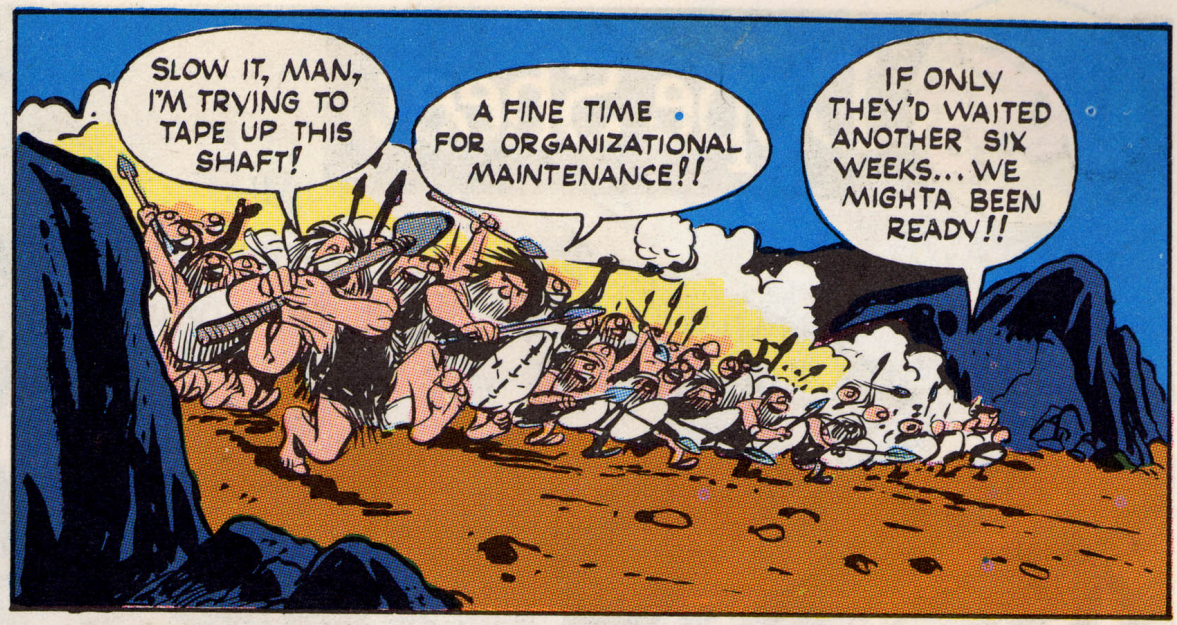
MWO 9-1190-233-20/1, Apr, Wpns System, OP/ORG Maint, Pershing.
MWO 9-2350-217-20/3, Apr, How, Med, Self-Propelled; 155-MM, M109; Installationss of Rammer Solenoid* Plunger Guard.
MWO 55-1510-202-34/97, C2, Apr, O-1A.
MWO 55-1510-202-50/1, C1, Apr, O-1A.
MWO 55-1510-204-34/17, C2, Apr, OV-1.
MWO 55-1510-204-34/49, Apr, OV-1.
MWO 55-1510-204-34/53, Apr, OV-1.
MWO 55-1510-206-34/4, C1, Apr, CV-2.
MWO 55-1510-206-34/29, Apr, CV-2.
MWO 55-1510-206-34/30, C1, Apr, CV-2.
MWO 55-1510-206-34/56, Apr, CV-2.
MWO 55-1510-206-34/57, C1, Mar, CV-2.
MWO 55-1510-206-34/66, Apr, CV-2.
MWO 55-1520-201-34/2, C2, Apr, UH-19.
MWO 55-1520-201-34/7, Apr, UH-19.
MWO 55-1520-204-34/20, C2, Apr, OH-13.
MWO 55-1520-204-34/32, Apr, OH-13.
MWO 55-1520-205-34/11, Apr, CH-21.
MWO 55-1520-206-34/17, C1, Apr, OH-23.
MWO 55-1520-209-20/32, Apr, CH-47.
MWO 55-1520-209-34/89, Apr, CH-47.
MWO 55-1520-210-20/2, C1, Apr, UH-1.
MWO 55-1520-210-20/5, C1, Apr, UH-1.
MWO 55-1520-210-20/6, Apr, UH-1.
MWO 55-1520-211-34/10, C1, Apr, UH-1.
MWO 55-1520-211-20/17, Apr, UH-1.
MWO 55-1520-211-20/18, C1, Apr, UH-1.
MWO 55-1520-211-34/21, C1, Apr, UH-1.
MWO 55-1520-211-34/23, Apr, UH-1.
MWO 55-1610-201-30/2, C1, Apr, OV-1.
MWO 55-2800-2000-30/1, Apr, UH-1.
MWO 55-2800-200-30/2, C1, Apr, UH-1, OV-1.
MWO 55-2810-207-34/1, Apr, OH-23.

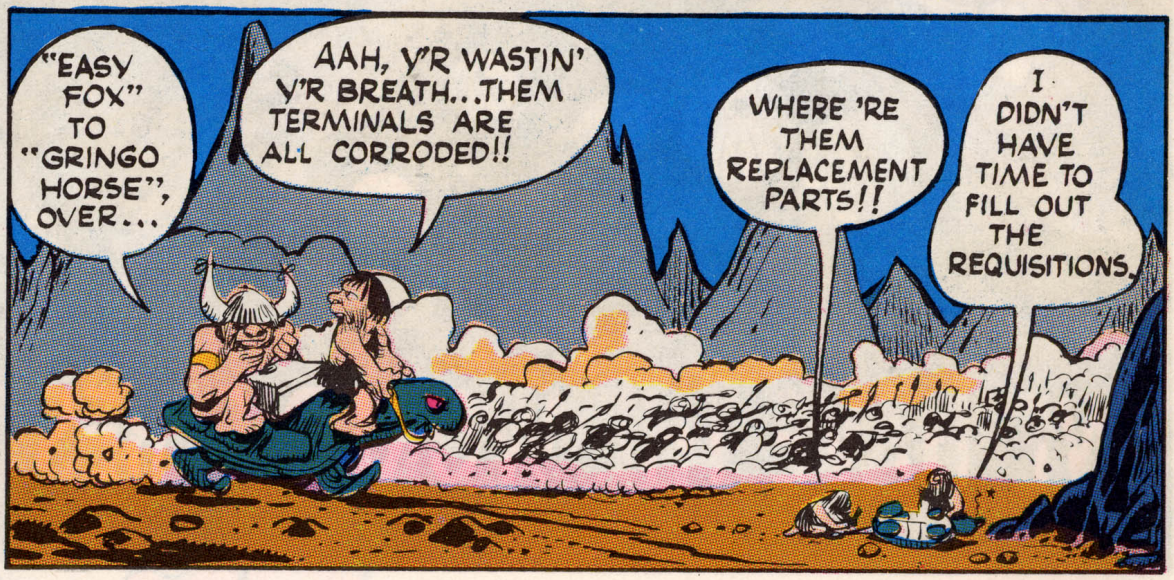
MISCELLANEOUS

LO 5-3431-215-15, Mar, Welding Machine, Arc: Libby Welding Co., Inc., LEB-300.
LO 9-1055-202-10, Mar, Honest John, Ground Hdlg, Spt & Svc Equip.
LO 9-1430-502-12, Apr, Hawk, Ground Con Equip.
LO 9-2320-222-12, C1, Mar, M88 Recovery Vehicle.
LO 10-3930-255-20, Apr, Truck, Lift, Fork, 2,000 Lbs Cap, Baker FTD-020-EE, Army MHE 197.
LO 10-3930-256-20, Apr, Truck, Lift, Fork, Electric, 6,000 Lbs Cap, Baker FTD-060-EE, Army MHE 198.
C 2610-IL-A, Apr, FSC Class 2610 Tires and Tubes, Pneu, Except Acft.
SC 1305/30-IL, Mar, FSC Group 13 Ammunition and Explosives; Class 1305 Ammunition, Through 1330.
SC 1340/98-IL, Mar, FSC Group 13 Ammunition and Explosives; Class 1340 Through 1398.
SC 4935-95-CL-A53, Mar, Tool Set, Ord Rocket Support Unit: 762-MM (4935-034-8471).
SC 5815-IL-1, Mar, FSC Group 58 Communication Equipment.
SC 5815-IL-2, Mar, FSC Group 58 Communication Equipment.
SC 5820-IL-1, Mar, FSC Group 58 Communication Equipment.
SC 5820-IL-2, Mar, FSC Group 58 Communication Equipment.
SC 5840-IL-1, Mar, FSC Group 58 Communication Equipment.
SC 5840-IL-2, Mar, FSC Group 58 Communication Equipment.

JOE'S DOPE
The Charge Of The Night Brigade
OR
You Go With What You've Got.
OKAY! SADDLE UP, YOU NIGHT-FIGHTERS! WE'RE MOVIN' OUT!
Half a League, half a League,
Half a League Onward:
Into the Valley of Retch
Rode the Six Hundredth!
At 0400, Monday, 458,753 B. C. . . . The Six Hundredth Night Brigade moved out of garrison and headed down the glacier toward the fertile Retch valley below. . . .
KILL 'EM!
GRRR...
ARF ARF!
"Forward the Night Brigade!
Let's charge them guns," they
said. Into the Valley of Retch
Rode the Six Hundredth!
CLOBBER 'EM!!
YAHOOO, ALSO.

* According to the ESC . . . but they didn't even have the ESC to check out their equipment.





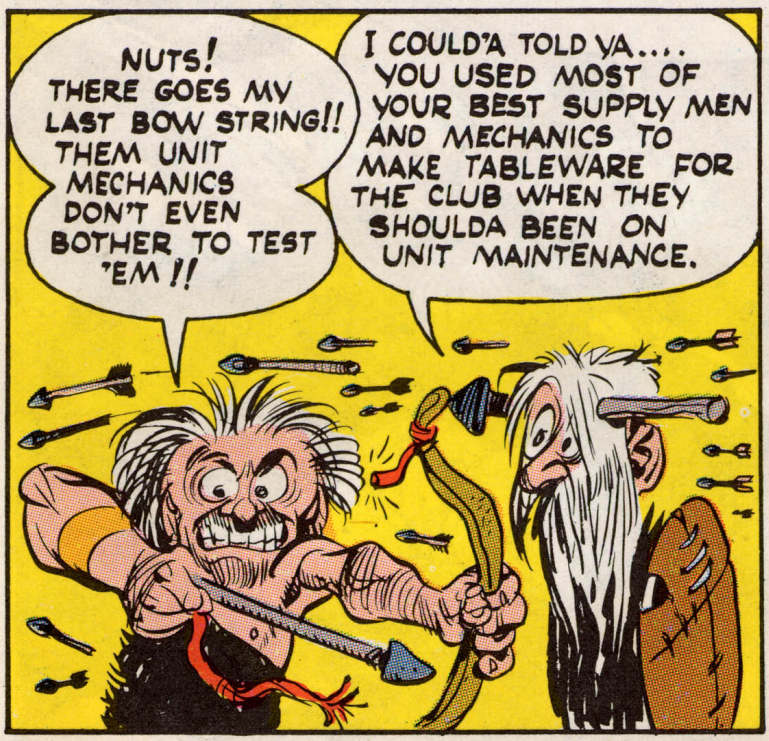
* Prescribed Load List

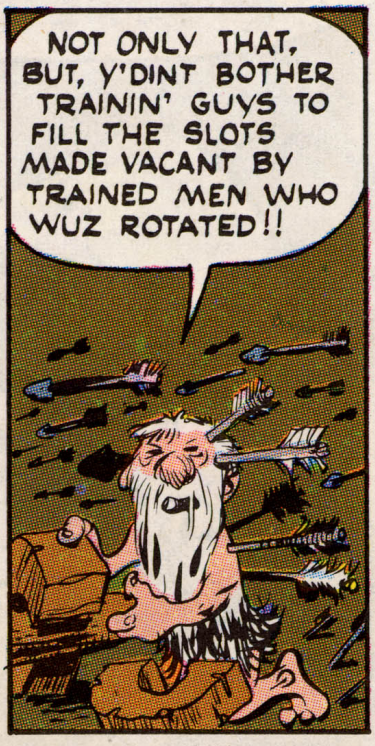
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR B

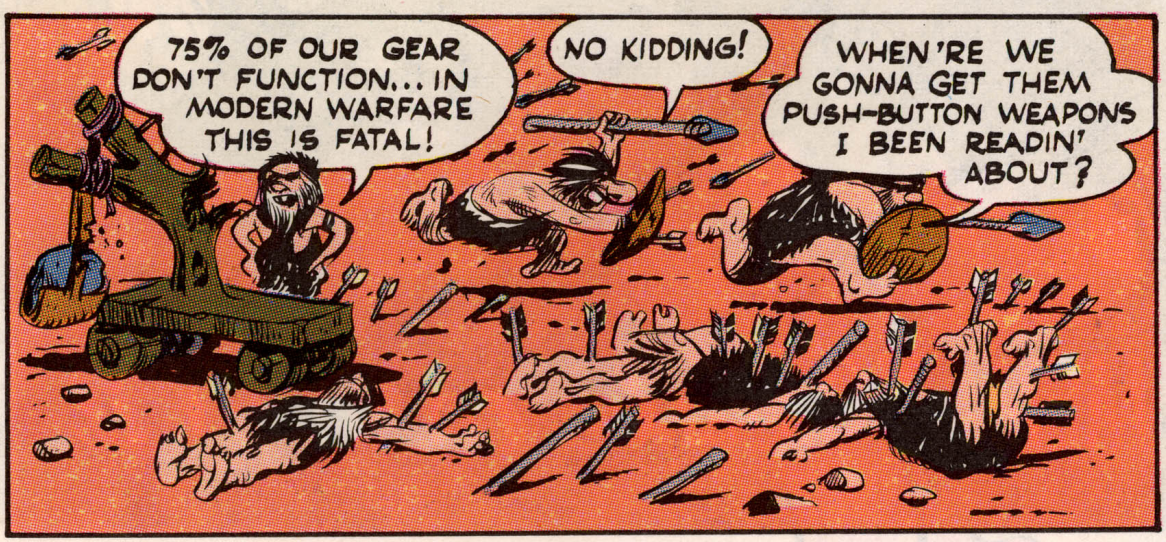
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPE OUT AND PIN IT UP.

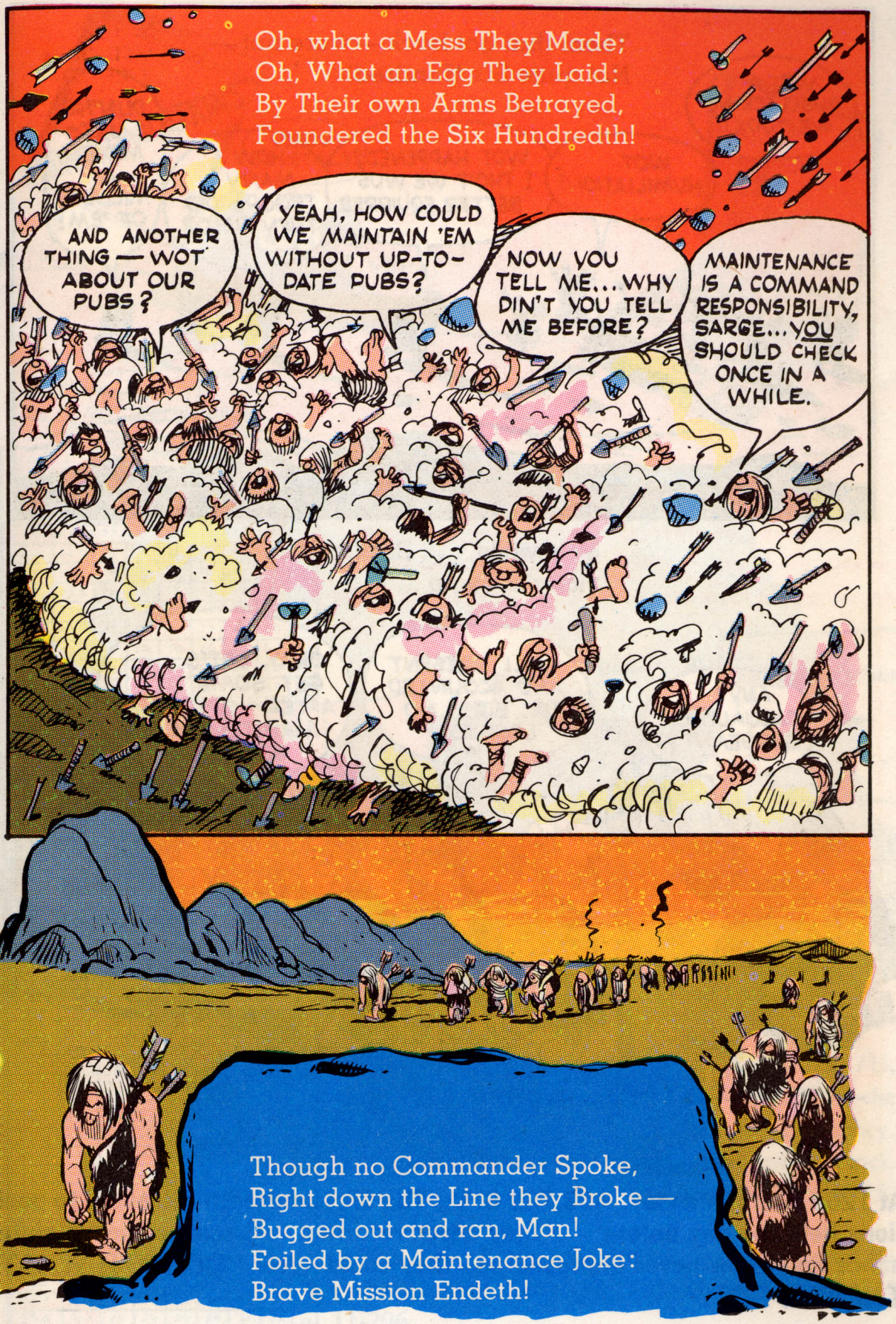
ULLETIN BOARD, OPE OUT AND PIN IT UP.

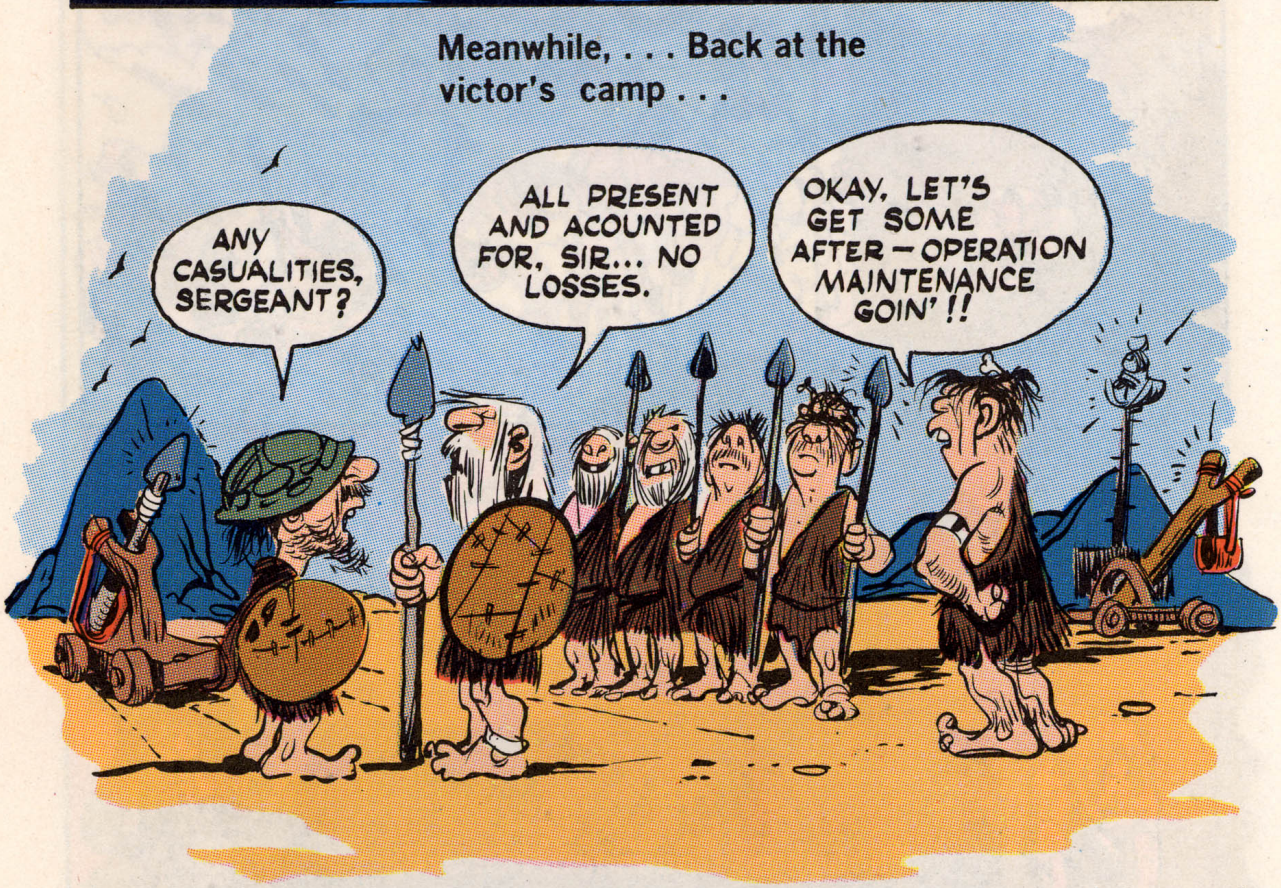
CHARGE!!
Goof off to the Right of Them,
Goof off to the Left of Them:
Hipsters in Front of Them
Blasted the Six Hundredth!
MAN, THEY GOT ACCURACY! ...WE'RE 500 YARDS AWAY!


NUTS! THERE GOES MY LAST BOW STRING!! THEM UNIT MECHANICS DON'T EVEN BOTHER TO TEST 'EM !!
I COULD'A TOLD YA.... YOU USED MOST OF YOUR BEST SUPPLY MEN AND MECHANICS TO MAKE TABLEWARE FOR THE CLUB WHEN THEY SHOULDA BEEN ON UNIT MAINTENANCE.


NOT ONLY THAT, BUT, Y'DINT BOTHER TRAININ' GUYS TO FILL THE SLOTS MADE VACANT BY TRAINED MEN WHO WUZ ROTATED!!


75% OF OUR GEAR DON'T FUNCTION... IN MODERN WARFARE THIS IS FATAL!
NO KIDDING!
WHEN'RE WE GONNA GET THEM PUSH-BUTTON WEAPONS I BEEN READIN' ABOUT?


Oh, what a Mess They Made;
Oh, What an Egg They Laid:
By Their own Arms Betrayed,
Foundered the Six Hundredth!
AND ANOTHER THING — WOT ABOUT OUR PUBS?
YEAH, HOW COULD WE MAINTAIN 'EM WITHOUT UP-TO-DATE PUBS?
NOW YOU TELL ME... WHY DIN'T YOU TELL ME BEFORE?
MAINTENANCE IS A COMMAND RESPONSIBILITY, SARGE... YOU SHOULD CHECK ONCE IN A WHILE.
Though no Commander Spoke,
Right down the Line they Broke —
Bugged out and ran, Man!
Foiled by a Maintenance Joke:
Brave Mission Endeth!



At 1200 hours, Monday, 458,753 B. C., The Six Hundredth retreated to positions held the day before . . . they never returned — because their maintenance know-how never improved and they could never "GO-WITH-WHAT-THEY'VE-GOT."

IS EVERYTHING CRYSTAL CLEAR?

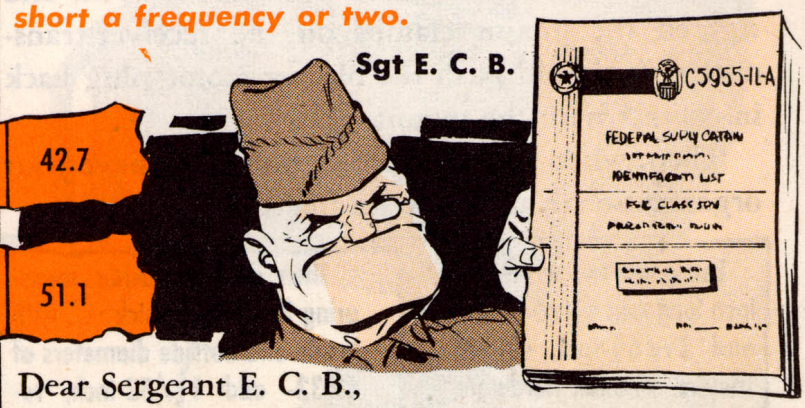
CHANNEL NUMBER	CRYSTAL FREQ.	COUNTER NUMBER 1 XTL OSC	2 IST RF	3 2ND RF	4 PWR AMP	5 XTR OSC	6 XTR DBL	7 ANT LDG
47.0	42.7	77	77	77	78	78	76	77
47.2	42.9	75	76	76	77	77	75	76
47.4	43.1	74	75	74	75	75	74	75
47.6	43.3	73	74	73	74	74	73	74
47.8	43.5	72	72	72	73	73	71	73
48.0	43.7	71	71	71	72	72	70	72
48.2	43.9	70	70	70	70	70	69	70
48.4	44.1	68	69	69	69	69	68	69
48.6	44.3	67	67	67	68	68	67	68
48.8	44.5	66	66	66	67			
49.0	44.7	65	65	65	66			
49.2	44.9	64	64	64	64			
49.4	45.1	63	63	63	63			
49.6	45.3	62	62	62	62	63	62	62
49.8	45.5	61	61	61	61			
50.0	45.7	59	60	60	60			
50.2	45.9	59	59	59	59			
50.4	46.1	58	58	58	58			
50.6	46.3	57	57	57	57	57	57	57
50.8	46.5	56	56	56	56	56	56	56
51.0	46.7	55	55	55	55	55	55	55
51.2	46.9	54	54	54	54	54	54	54
51.4	47.1	53	53	52	53	53	53	52
51.6	47.3	52	52	51	52	52	52.5	51
51.8	47.5	51	51	50	50	50	51.5	50
52.0	47.7	49	50	49	49	49	50.5	49
52.2	47.9	48	49	48	48	48	49.5	48
52.4	48.1	47	48	46	47	47	48.5	47
52.6	48.3	46	46	45	46	46	47.5	46
52.8	48.5	45	45	44	45	45	46.5	45
53.0	48.7	43	44	43	44	44	45.5	44
53.2	48.9	42	43	42	43	43	45	43
53.4	49.1	41	42	41	42	42	44	42
53.6	49.3	40	41	39	41	41	43	41
53.8	49.5	38	40	38	40	40	42	40
54.0	49.7	37	39	37	38	39	41	39
54.2	49.9	36	38	36	37	38	40	38
54.4	50.1	34	36	34	36	37	39	37
54.6	50.3	33	35	33	35	35	38	36
54.8	50.5	32	33	31	33	34	37	35
55.0	50.7	30	32	30	32	33	36	34
55.2	50.9	29	30	29	30	32	35	33
55.4	51.1	28	29	28	29	31	34	32

Dear Half-Mast,

Could you give me the FSN's for crystals in Crystal Set CK-6/PRC-6, FSN 5955-667-4557?

We need some of the crystals to complete the kit, but we can't find the FSN's in our pubs. Otherwise, our AN/PRC-6 radio sets are going to be short a frequency or two.

Sgt E. C. B.



Dear Sergeant E. C. B.,

Yes indeedy. You'll find the individual crystals in Federal Supply Catalog C5955-IL-A (1 Sep 64), and Change Bulletin 2 (C5955-IL-A-CB2) dated 1 June 65.

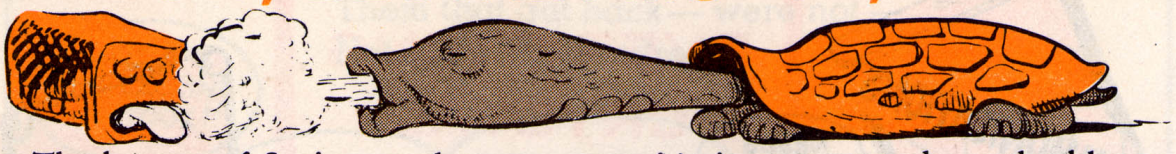
The crystals are part of Crystal Unit CR-52A/U, and you'll find them on pages 74, 76 and 77 of the FSC catalog. They're listed by FSN and frequency.

You can get the lowest frequency crystal (42.7mc), f'rinstance, as listed on page 76 under FSN 5955-892-3259, 42700 kc.

You can tell what frequency crystal you need by eyeballing the chart (Fig 12) on page 15 of TM 11-296.

Half-Mast

BLOW, BLOWER MOTOR, BLOW



The breezes of Spring are long gone, so it's important to have the blower motor working on your AN/VRC-24 and AN/TRC-68 radio sets. Right?

That being the case, you have good reason to be blowin' your top when the blower quits right in the middle of a long transmit . . . or thereabouts.

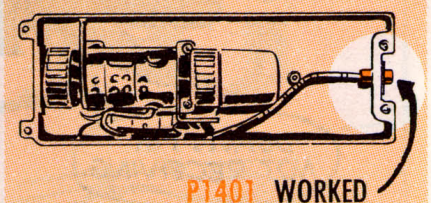
So, put that axe down and do not clobber your set, fren'. Help is here. Like, it isn't gremlins robbing your blower of power. Nine times out of ten, the blower will quit because vibration worked the plug (P1401) loose from the jack (J1702) on the mount.

There're a coupla' cures — like so:

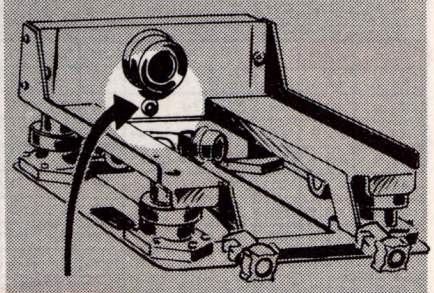
If you're out in the boondocks, reach down and tighten the mount clamps on the receiver-transmitter. It should push the blower motor plug back in contact with the mount jack.

Then, when you get back to the ranch, have your organizational mechanic do like this:

HERE'S THE TROUBLE

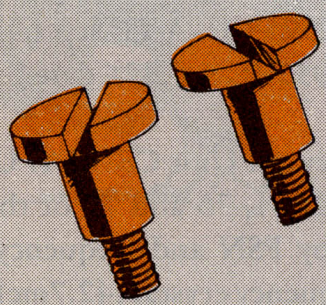


P1401 WORKED LOOSE . . .

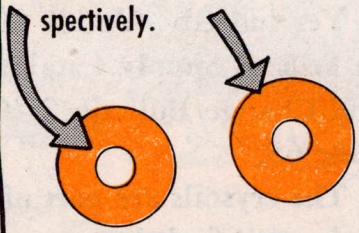


. . . FROM J1702

Latch onto two screws, a half-inch long and with 6-32 threads and 19/64-inch shoulders. They're common hardware.



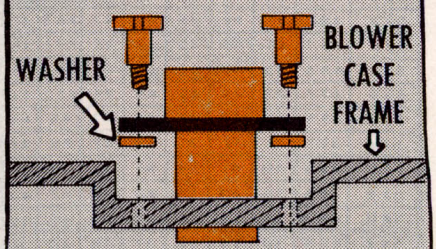
Then, get two washers measuring 3/32-inch thick . . . with inside and outside diameters of 5/32- and 11/32-inch, respectively.



(Ah, ha! You guessed it! The screws are 3/32-inch longer than those they replace, to allow for the washer.)

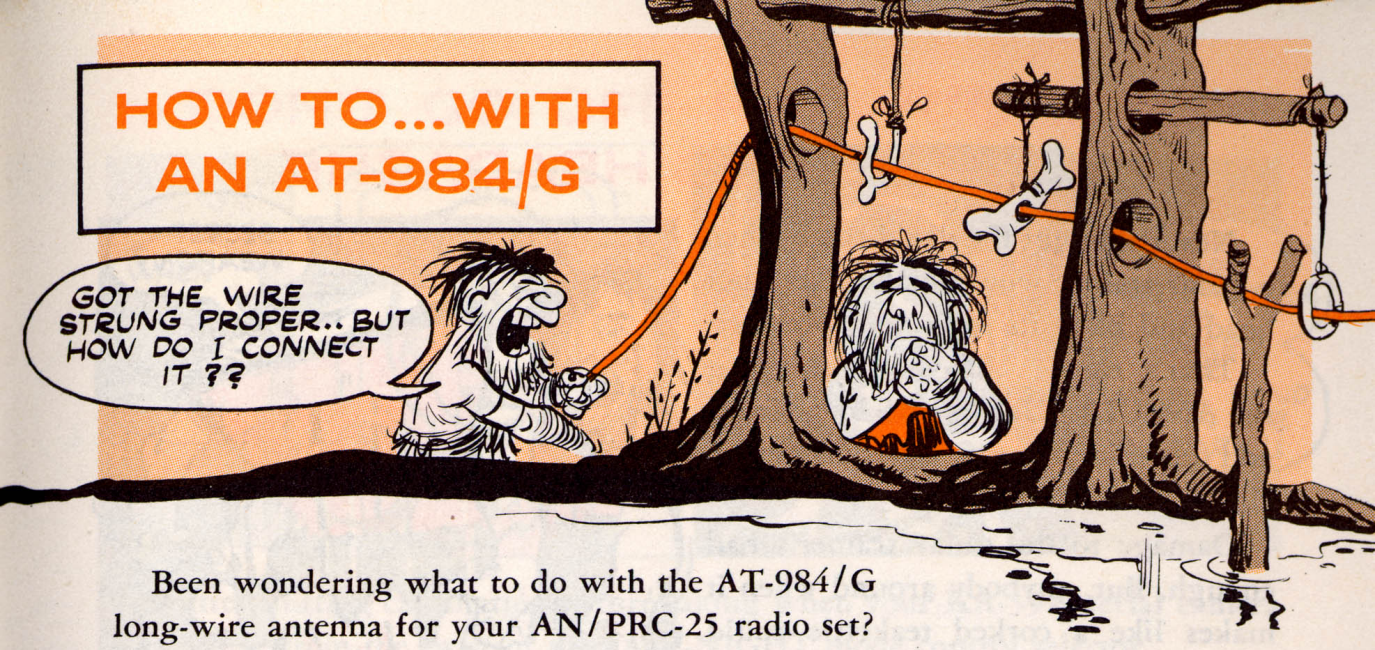
Now, remove the two screws that bracket the P1401 plug to the blower case.

Place the washers against the blower case, and screw the P1401 back in place through the washers.



Slide the P1401 into the J1702, and you've got it made. Providin' you've snugged the mount clamps properly, vibration shouldn't bother the connection. The fix should hold you until an MWO or such comes along.

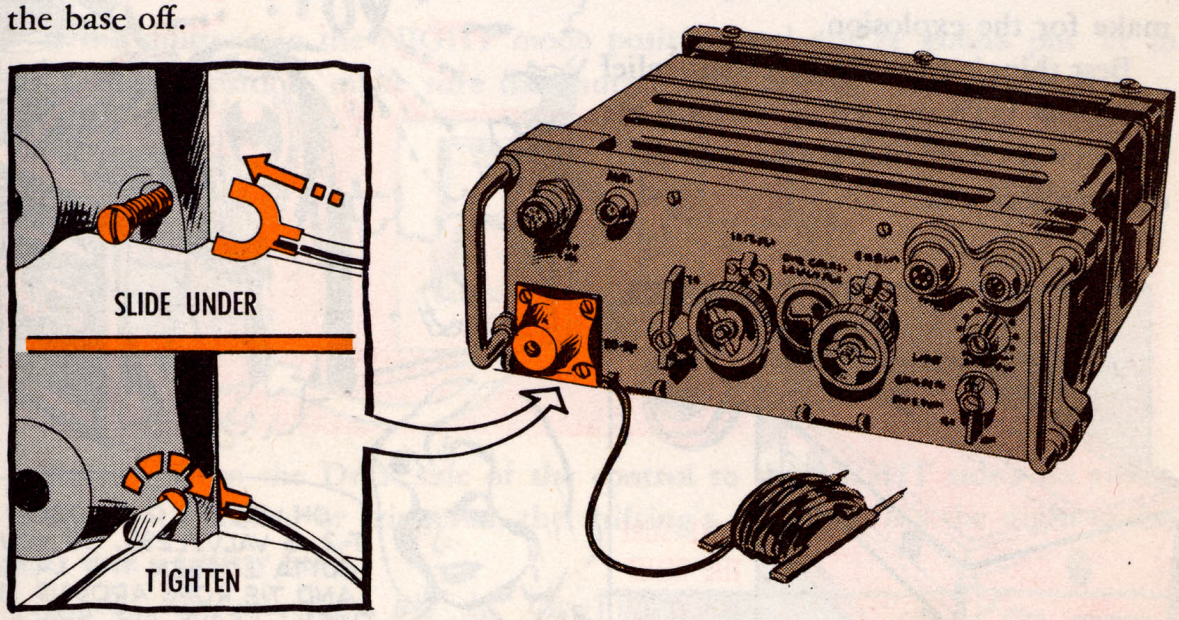
HOW TO...WITH AN AT-984/G



Been wondering what to do with the AT-984/G long-wire antenna for your AN/PRC-25 radio set?

Well, relax and exercise your eyeballs a while. Here's the way you work it:

File down the spade lug of the AT-984 antenna wire and cut an opening in the lug so's it can slide under the antenna base of the Perk-25 without taking the base off.



Then, extend the antenna wire in the direction you're gonna send or receive. Keep the wire about four feet above ground and secure it to bushes, trees or whatever with nylon cords.

Remove the AT-271A whip antenna from the radio set antenna support (AB-591), and unscrew the base until the antenna wire spade lug can slide under it. Retighten the base.

For maximum range, use the antenna to send to, or receive from, a set with the same type horizontally polarized antenna as the AT-984.

Meanwhile, if you haven't already seen it, grab an eyeful of pages 9 and 10, TB SIG 363-4 (Aug 64) for other interesting info on the AT-984.

Coverage of the antenna will be included at a later date in TM 11-5820-398-10.

KAPOW UNDER PRESSURE OR . . .

HIGH-FLYING HEADACHE

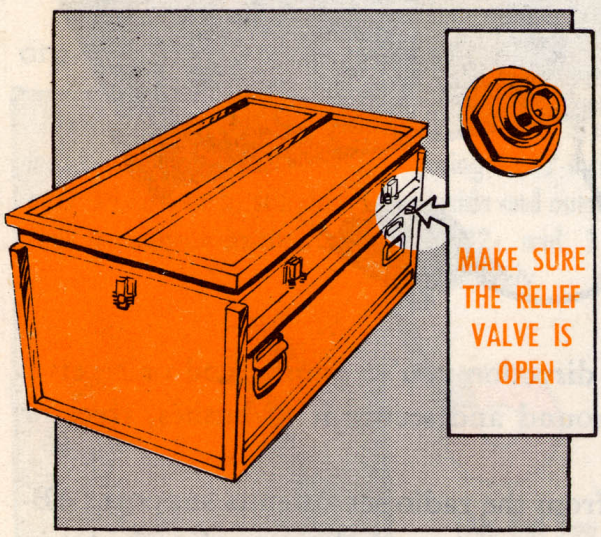
Never thought the day'd come when a radar trainer would make like a hot head and blow its top under pressure.

That's right . . . if you're shipping the AN/ULT-T2, 3, 4 or 5 by aircraft, and the relief valve on the transit case's closed . . . KABOOOOM!

Damage to the radar trainer's bad enough. But, anybody around when it makes like a corked teakettle could wind up a case for the medics.

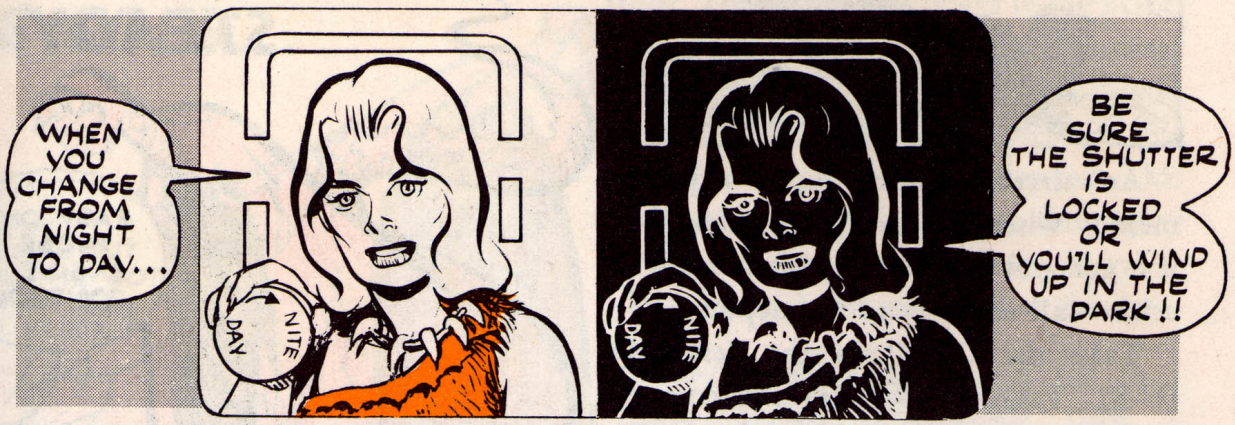
Changes in pressure outside the transit case and inside the equipment make for the explosion.

Best thing's to make sure that relief valve has been opened by turning the knob on the side of training case fully counterclockwise.



Like it says in TB Sig 363-1 (Oct 64) on page 67, an automatic valve's being worked up to replace the manual one. Meanwhile, better check to see if that valve's open before the radar trainer's sent up and away.

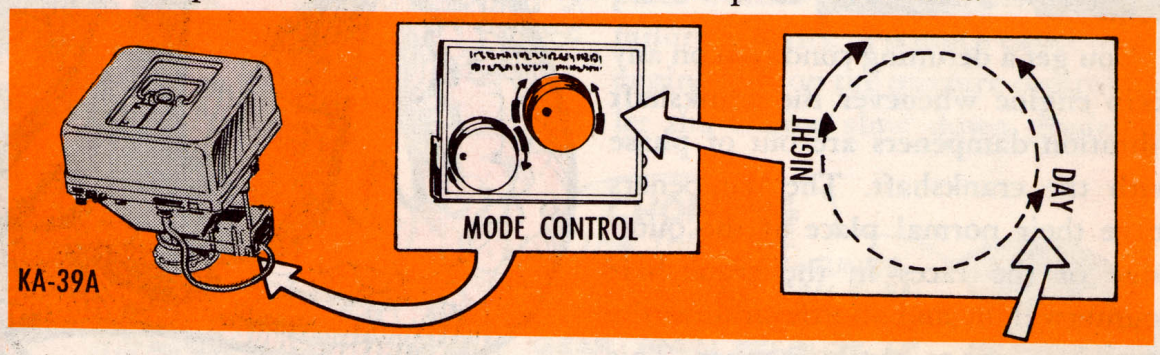
DON'T GO OFF HALF COCKED



Shutter shifting can shatter picture taking when your KA-39A aerial camera goes kaput from the twist of the DAY-NIGHT mode control selector.

Sure, shifting the shutter selector knob's the thing to do—depending on whether it's day or night. But, there's a f'rinstance you oughta keep in your noggin'.

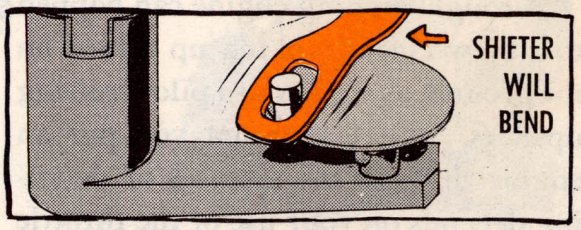
If the shutter's in the NIGHT mode position and you're gonna put 'er in DAY mode position, make sure the shutter is open—or cocked.

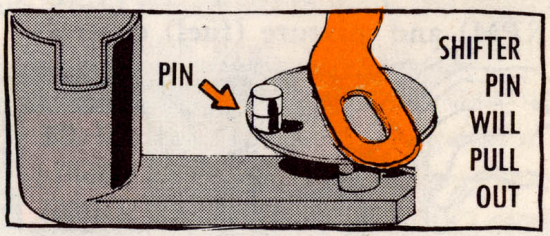


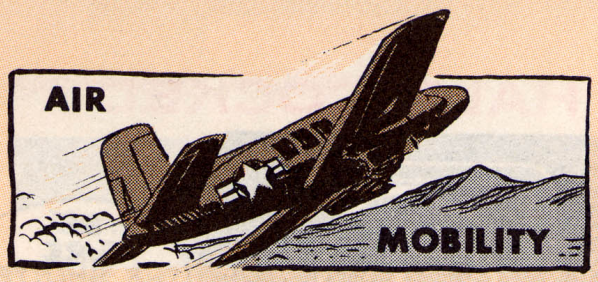
Shifting from the DAY side of the control to the NIGHT side's no sweat. Whether it's cocked or triggered, the shifting's the same. It's the night-to-day shift that's a dirty bird.

When the selector's set in the NIGHT position, and the shutter's triggered, the firing cycle's only half completed. With the parts inside the shutter and lens assembly still in a strain, shifting to DAY mode'll bend the A621 day-night mode shifter. The shifter pin'll pull out of its hole in the shutter.

Then, the next time you're ready for taking pictures, your camera's shutter won't wink at you—or anything.

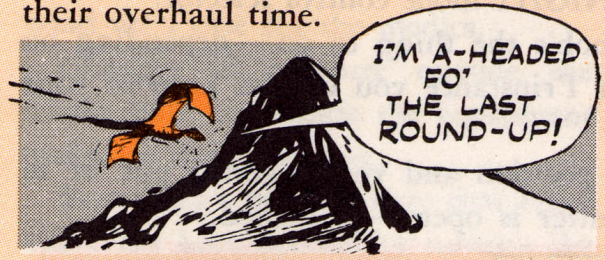






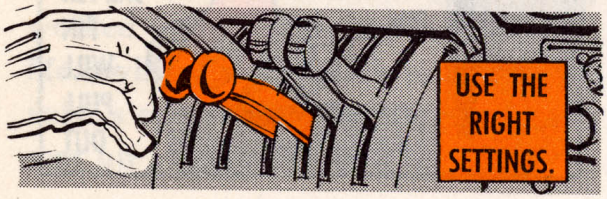
An aircraft engine hums a pretty melody when it's run by the book. But if it gets out of tune the sour notes will echo—all the way to the depot.

Take the O-480 in the Seminole (U-8). Teardown of several engines has shown that counterweight detuning caused them to fold up long before their overhaul time.



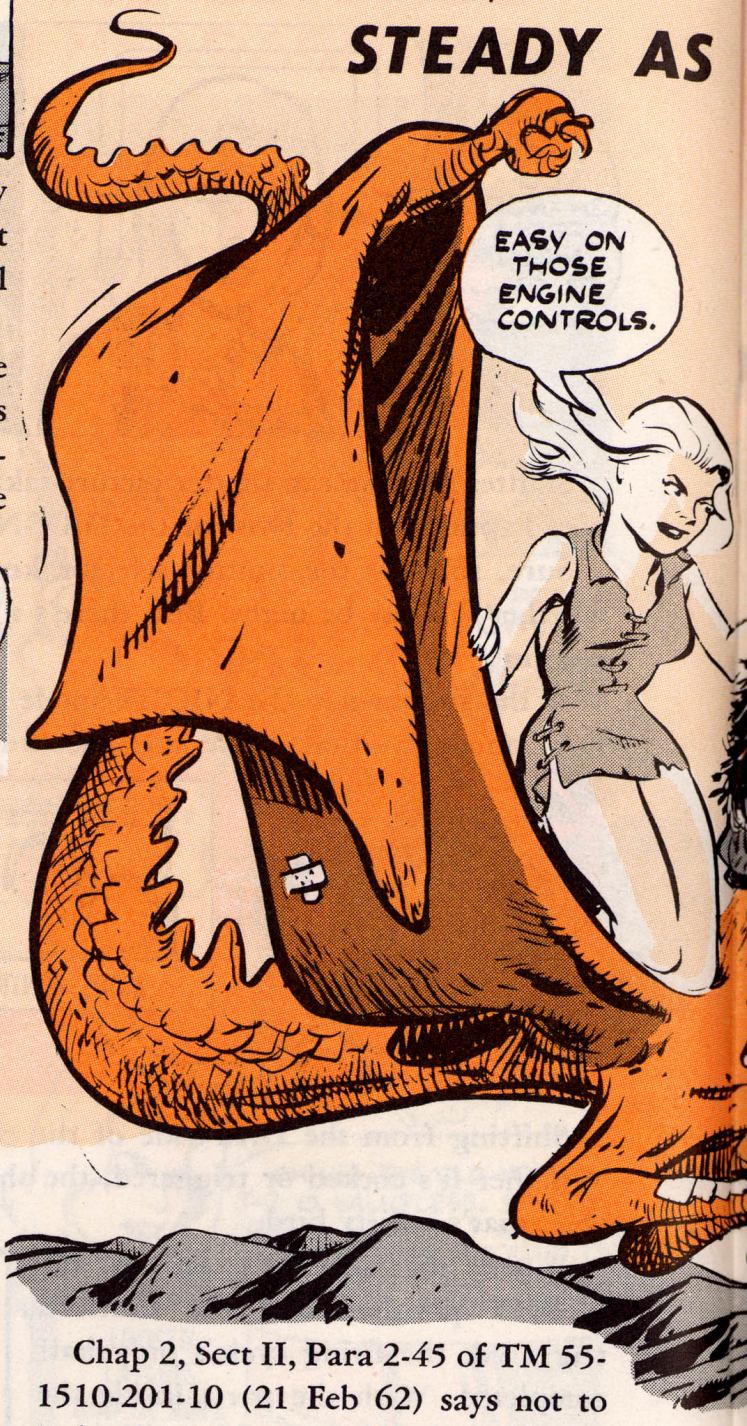
You get a detuning condition on any recip engine whenever the crankshaft vibration dampeners are out of phase with the crankshaft. The dampeners leave their normal place at the outer edge of the races in the crankshaft counterweight and shuttle around the races in a not-so-gentle manner. This condition is easily recognized as temporary "engine roughness."

A rough-running engine can happen to a crew chief cranking up a bird on the ground, as well as to a pilot cruising upstairs. Whether or not you put an engine through the tortures of detuning depends on your use of the throttle (manifold pressure), propeller pitch (RPM) and mixture (fuel) controls.



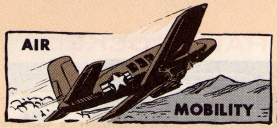
WHEN SETTING ENGINE CONTROLS, IT'S . . .

STEADY AS



Chap 2, Sect II, Para 2-45 of TM 55-1510-201-10 (21 Feb 62) says not to jerk the throttle open or closed when you're running up the engine at high RPM and high manifold pressure. Of course you don't want to use a high RPM and a low manifold pressure combination, either. These conditions can detune the engine for real!

Similar poop is in Chap 2, Sect II,



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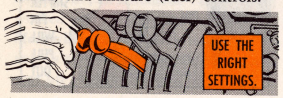
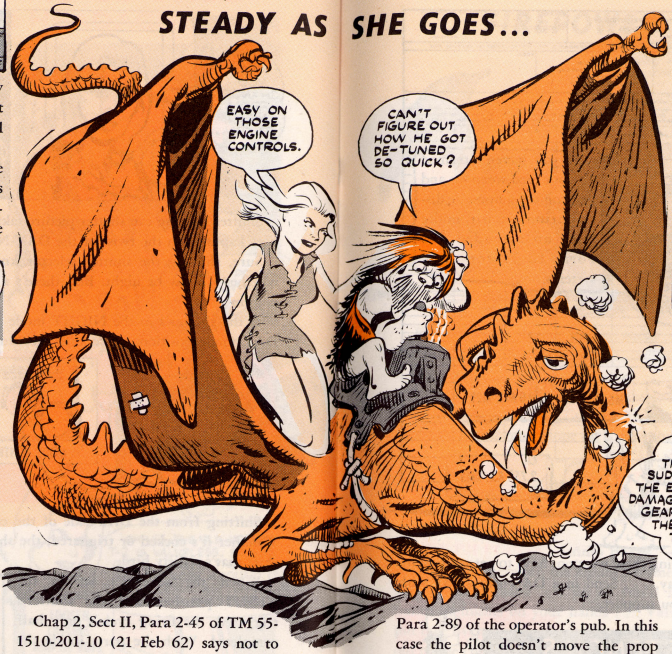


WHEN SETTING ENGINE CONTROLS, IT'S . . .

STEADY AS SHE GOES...



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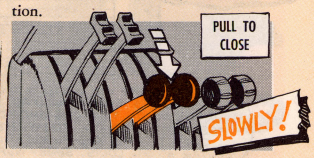
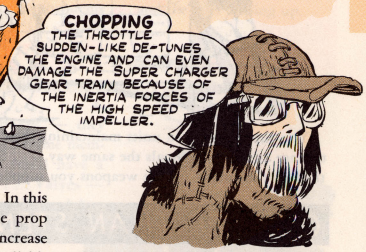
Similar poop is in Chap 2, Sect II, Para 2-89 of the operator's pub. In this case the pilot doesn't move the prop control to low pitch (full increase RPM) on the final approach until his speed is stabilized by proper setting of the throttle. This makes for a good relationship between RPM and manifold pressure.

'Course proper use of the mixture control is also mighty important in order to keep your engine humming in tune. The control is always in the FULL RICH position during normal running.

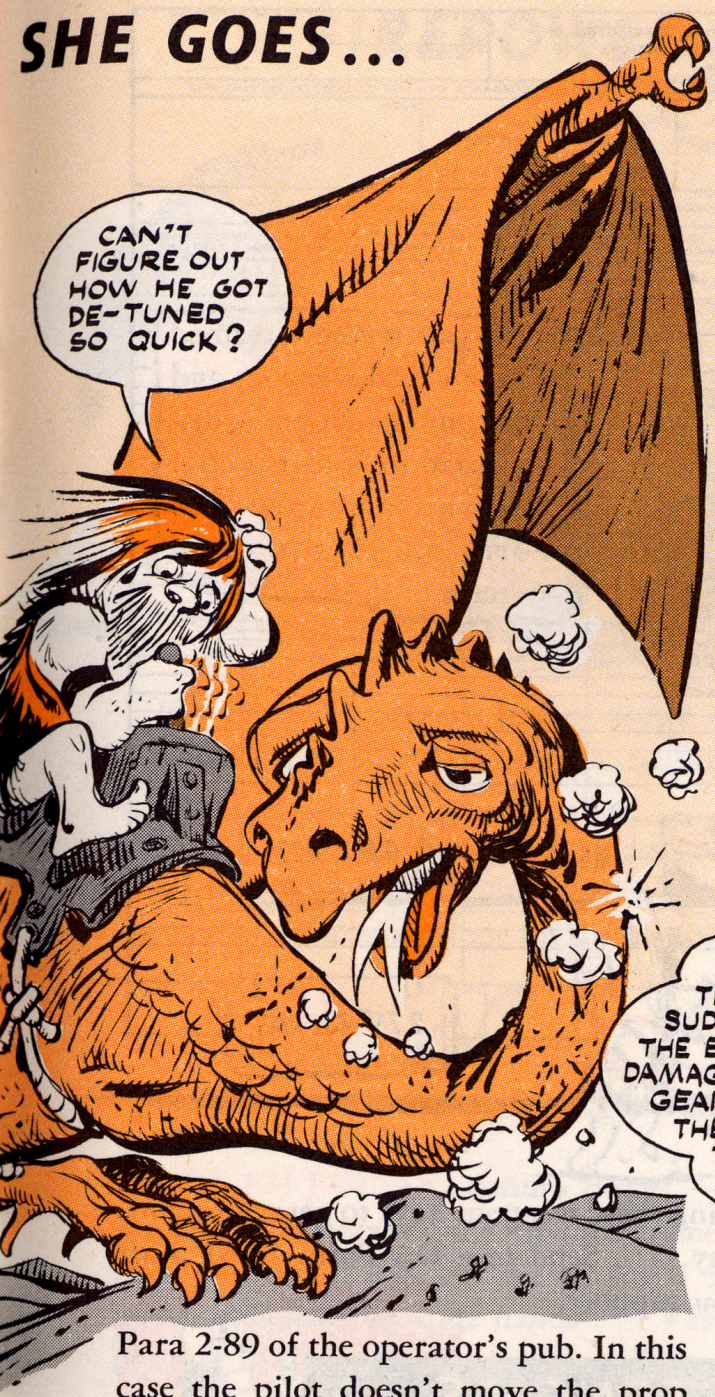
During normal engine shut-down, the throttle is retarded slowly to idle and then the mixture is chopped. This SOP stops the flow of fuel to the engine while the open throttle lets the cylinders fill with air to cushion deceleration.



This same cushioning principle takes place when a pilot simulates an engine failure upstairs. 'Tis much easier on the engine to chop the mixture control and let the engine slow down gradually.



So-o-o-o . . . the next time you crank up a bird remember to move the engine controls with firm, gradual pressure. When you do, and you set the controls by the power charts in the operator's pub, your bird will sing a happy tune —all the way to its normal TBO.



Para 2-89 of the operator's pub. In this case the pilot doesn't move the prop control to low pitch (full increase RPM) on the final approach until his speed is stabilized by proper setting of the throttle. This makes for a good relationship between RPM and manifold pressure.

'Course proper use of the mixture control is also mighty important in order to keep your engine humming in tune. The control is always in the FULL RICH position during normal running.

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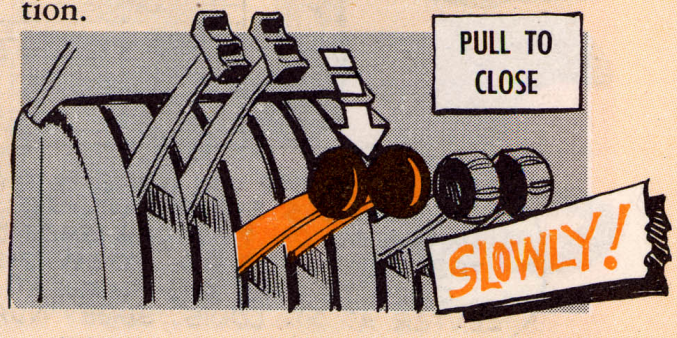

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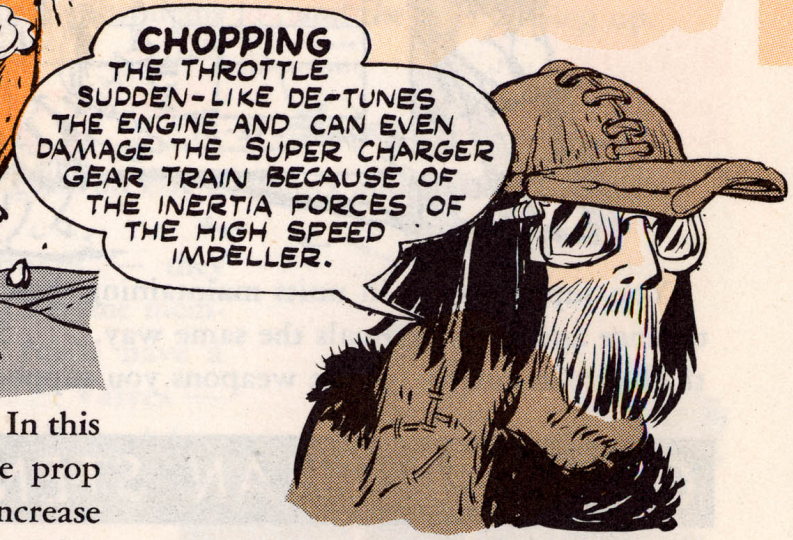

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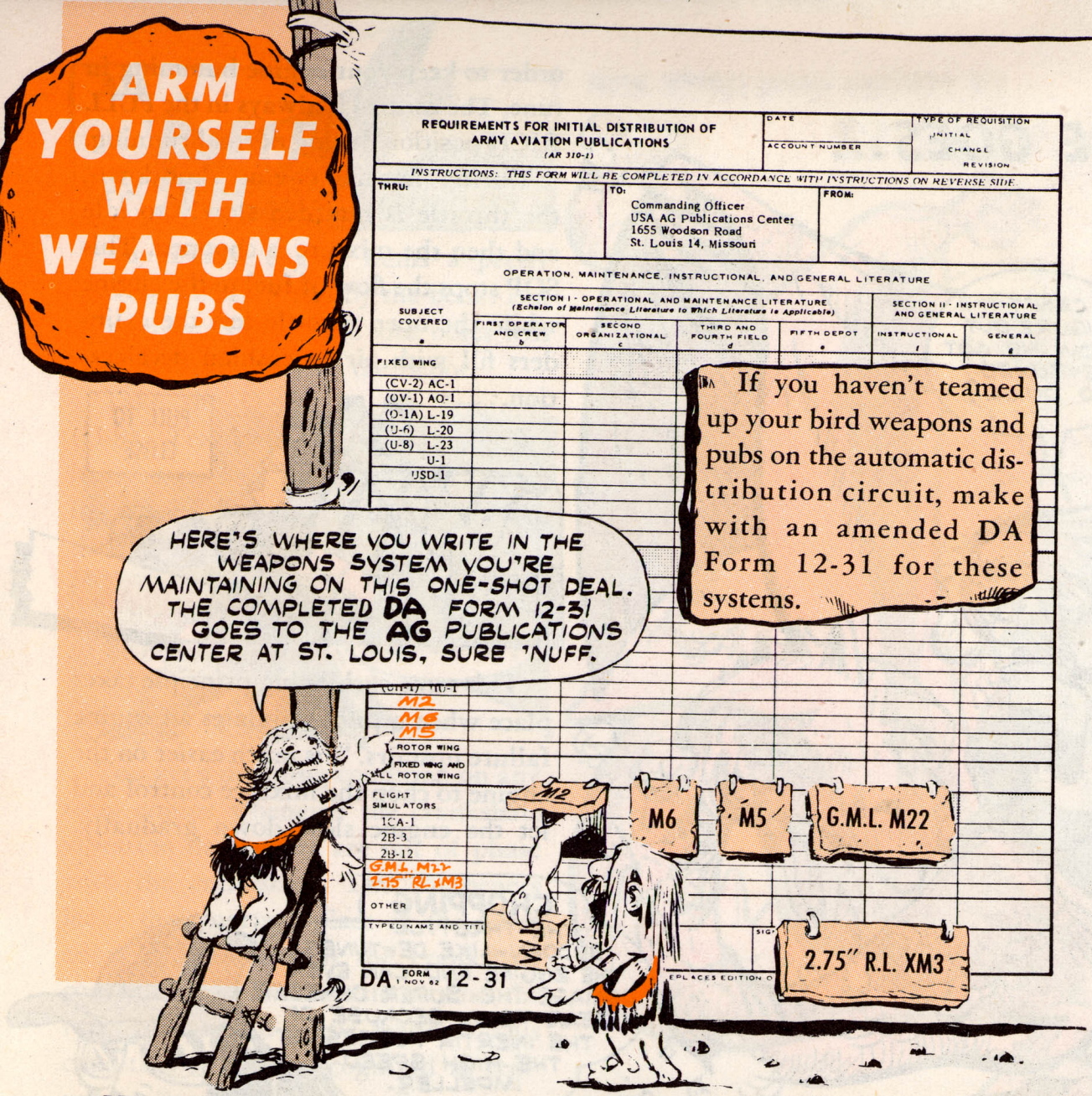
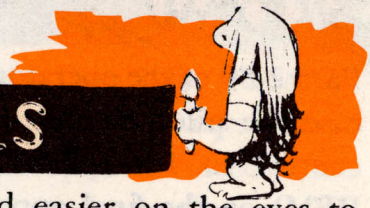


You support guys in units maintaining these weapons have to get your maintenance and parts manuals the same way. . . . Send in a DA Form 12-31 with the write-in entries for the weapons you support.

QUICKER THAN STENCILS



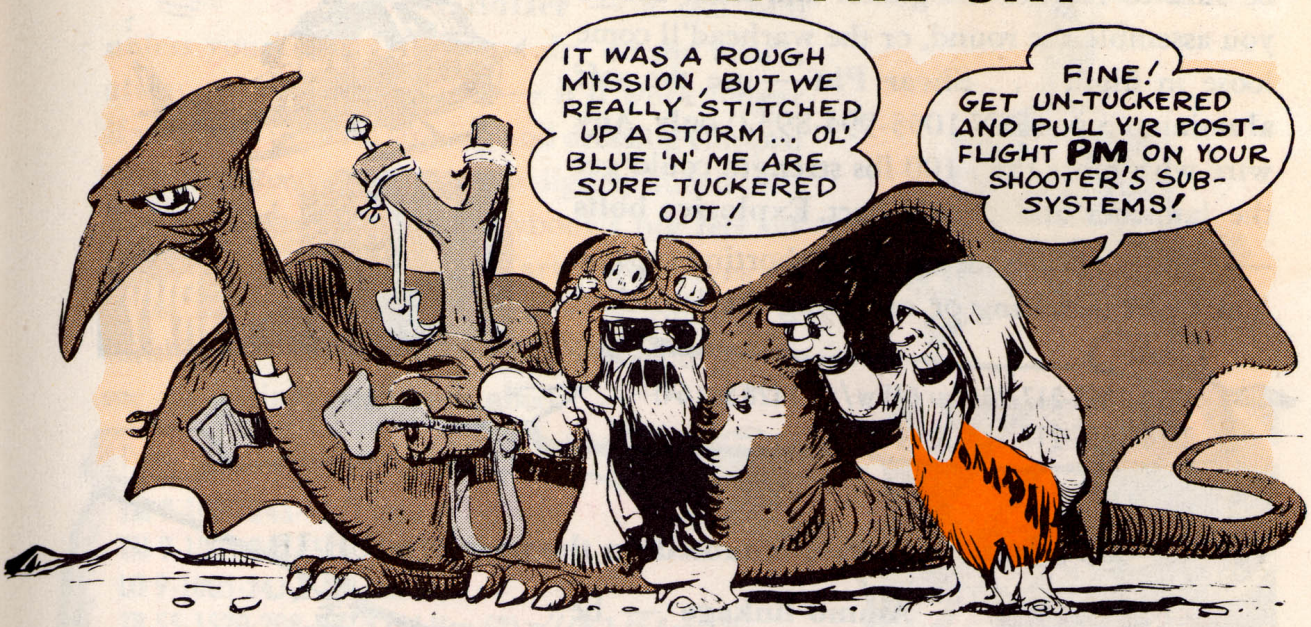
It's a heckuva lot quicker than cutting stencils and easier on the eyes to use plastic embossing tape as instrument identification stickers.

It's also handy to use as labels where you have semi-permanent type entries on wall charts.

The embossing machine is available from GSA by looking under FSC Group 74. The stickers FSN's are listed by color under Tape, Embossing, in Federal Supply Class 7510 of the GSA Stores Stock Catalog (Dec 64).

AIRCRAFT ARMAMENT SUBSYSTEMS. . .

FIREPOWER IN THE SKY



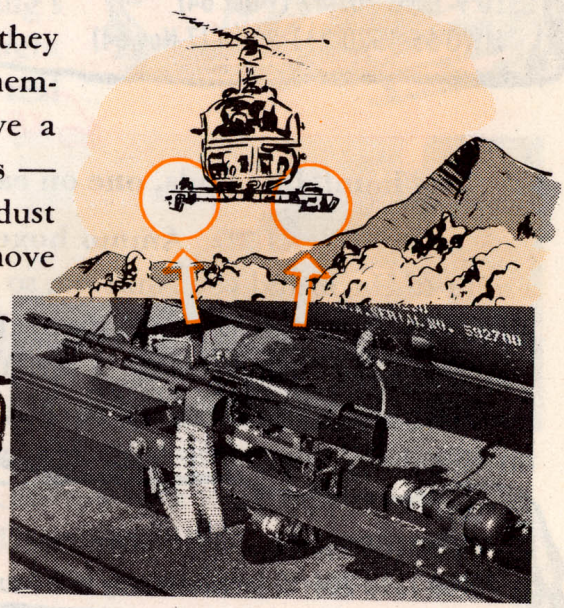
Sky troops're blazing history today with all kinds of airborne weapons—machine guns, grenade launchers, rockets, missiles . . . and tomorrow's an even hotter day!

Here're some quick flashes on the main ones, with PM pointers, pubs and other poop you MOS 427's, crew chiefs and mechanics might find handy. Keep tuned to PS for more dope on these subsystems . . . and the ones coming up.

M2 (TWIN M60C'S)

Modified 7.62-mm machine guns on OH-13 Sioux and OH-23 Ravens

KEY PM POINTS: Ammo Boxes — they snuggle tight between the mount's frame members, so don't bang 'em up or you'll have a bunch of misfits on your hands . . . **Valves** — put tape over the openings to keep dirt and dust out of the charger system whenever you remove the hose.



Pubs:
TM 9-1005-247-12 (8 Jan 64) w/Ch 1 (1 Sep 64)
TM 9-1005-247-ESC (3 Feb 65)
LO 9-1005-247-12 (24 Apr 64)
TB 55-1520-204-10/1 (12 Jul 62)
MWO 55-1520-211-20/6 (10 Jun 63) w/Ch 1

M3 (2.75-IN ROCKET)

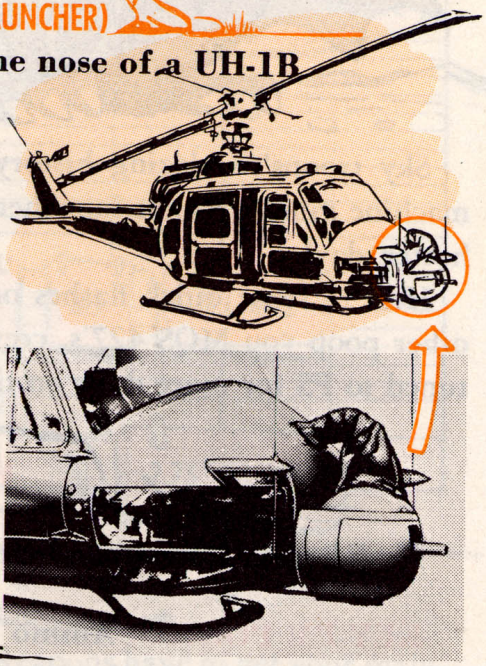
Pair of 24-tube pods, one on each side of a UH-1B Iroquois

KEY PM POINTS: **Warhead assembly** — be sure to remove the gasket and shim before you assemble the round, or the warhead'll come loose in flight . . . **Shear Pin** — use the soft aluminum type (FSN 1055-994-8932) only. Any wire with more than 100 lbs strength could get the launcher and people hurt. **Explosive bolts** — f'goshsakes, be sure and put shorting caps on 'em when installing or removing the launcher.

Pubs:
TM 9-1055-217-20 (Apr 64) w/Ch 1 (28 Sep 64)
TM 9-1055-217-12P (Apr 64)

M5 (40-MM GRENADE LAUNCHER)

M75 launcher turret-mounted on the nose of a UH-1B

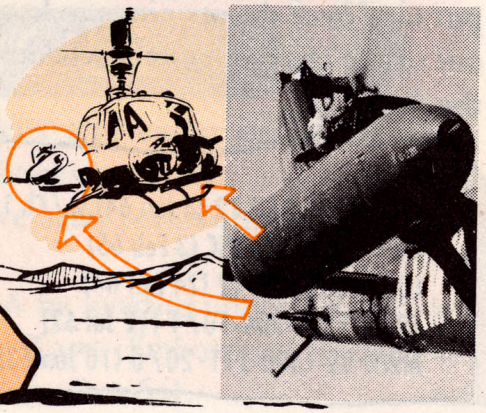


KEY PM POINTS: **Ammo linkage** — be sure you get the links on the ammo right. Get 'em on backwards and you've got a feed stoppage — or worse! . . . **Launcher** — no "but's" about it, it's got to be field-stripped, cleaned and lubed after every firing like the LO says, or you're inviting trouble.

Pubs:
TM 9-1010-207-12 (28 Jan 65)
TM 9-1010-207-ESC (18 Feb 65)
TM 55-1520-211-10 (29 Jul 64) w/Ch 3 (2 Mar 65)
LO 9-1010-207-12 (1 Dec 64)
MWO 55-1520-211-20/4 (7 Nov 64)

XM14 (50-CAL)

Two bomb-like pods, one on each side of a UH-1B or OV-1 Mohawk

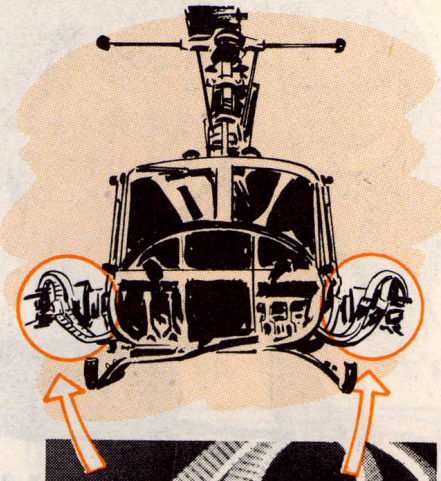


KEY PM POINTS: **Ammo boxes** — worth a mint to Uncle and your mission, so handle 'em right . . . **Pod** — inside must be real clean, and watch out for airline leaks . . . **AN-M3-50 Gun** — Head-spacing and timing have got to be A-1 on this baby.

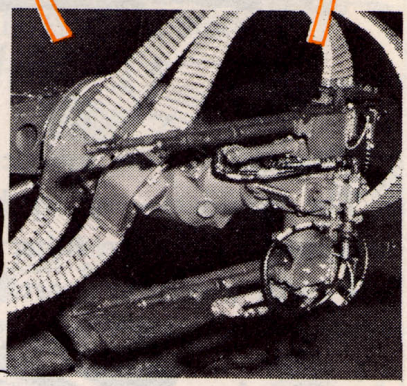
Pubs:
POMM 1005-253-24
POMM 1510-204-10 (available only with issued aircraft).

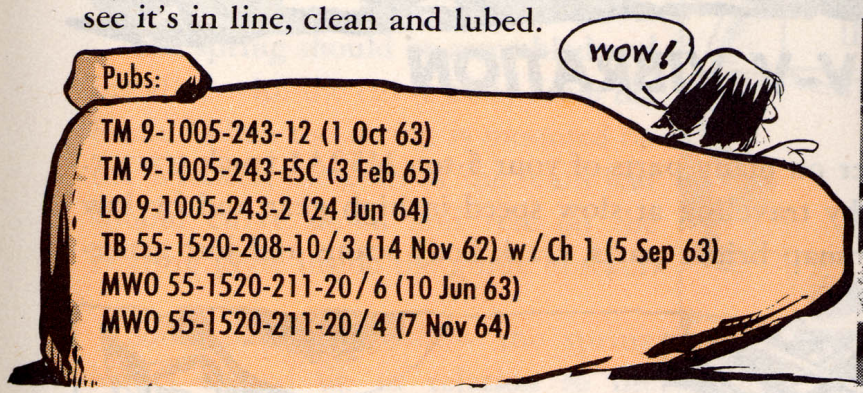
M6 (QUAD M60C'S)

Two 7.62-mm machine guns on each side of a UH-1B



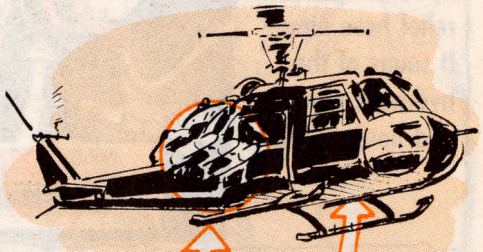
KEY PM POINTS: **Buffer** — a real brat unless you keep it clean and dry on the inside, always . . . **Bolt assembly** — it'll work longer if you keep up with stoning and dressing chipped lugs and keep moving parts lightly lubed . . . **Ammo boxes** — keep everybody's big feet off 'em, they're not steps! . . . **Cartridge Drives** — gotta be clean and lubed to work right . . . **Chuting** — eyeball it every chance you get to see it's in line, clean and lubed.



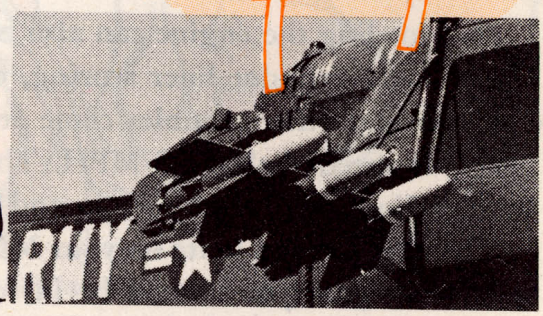


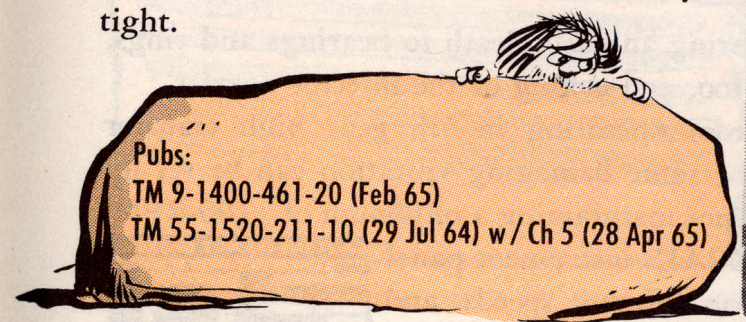
M22 (SS-11 MISSILES)

Three anti-tank wire-guided missiles on each side of a UH-1B

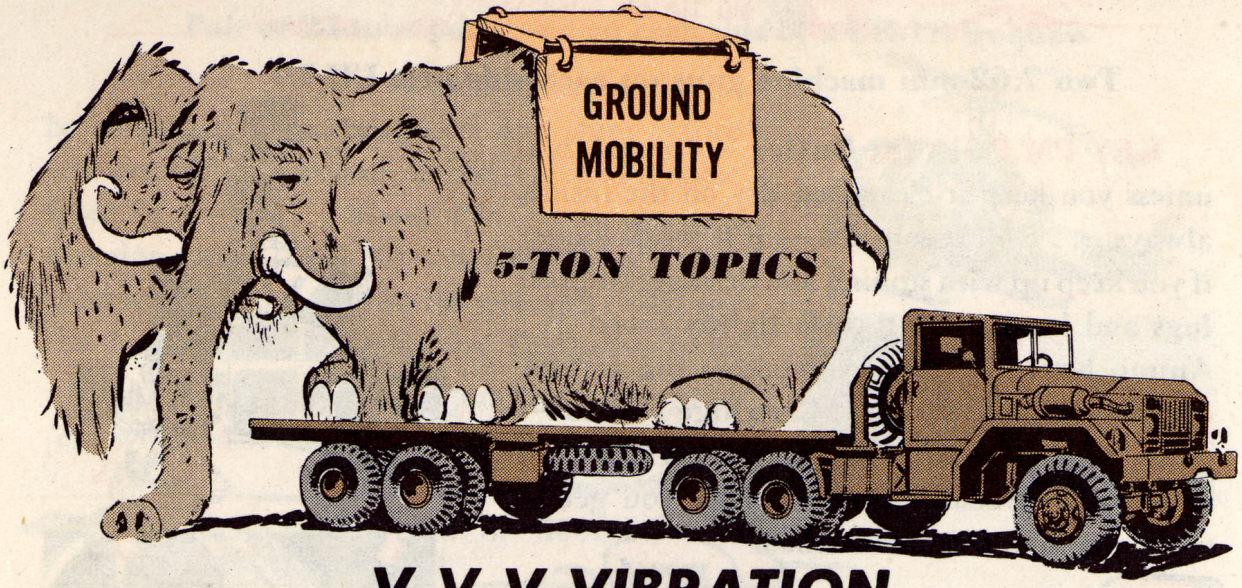


KEY PM POINTS: **Mating joint of launcher support and housing assemblies** — double check before each flight that everything's tightened . . . **Armament assembly** — pre-flight MUST: see that the arm rest assembly's real tight.



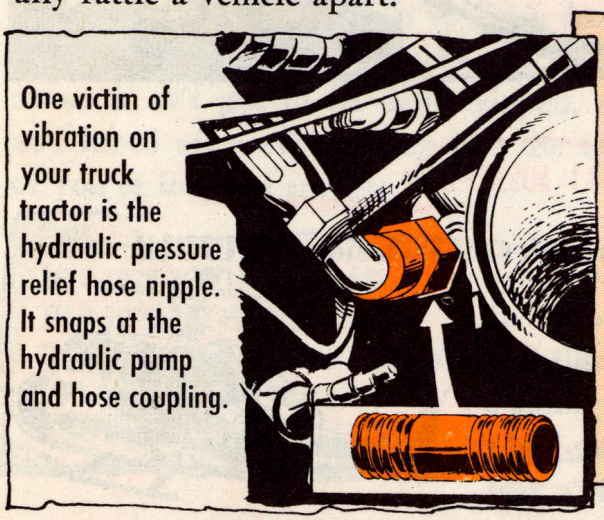


Hey, you 427's, any time you run into a real snag on repairs and parts — anywhere on the map — remember, y'can always buzz your support and get a weapons expert a-running to your side. These subsystems, y'know, rate A-1 priority.

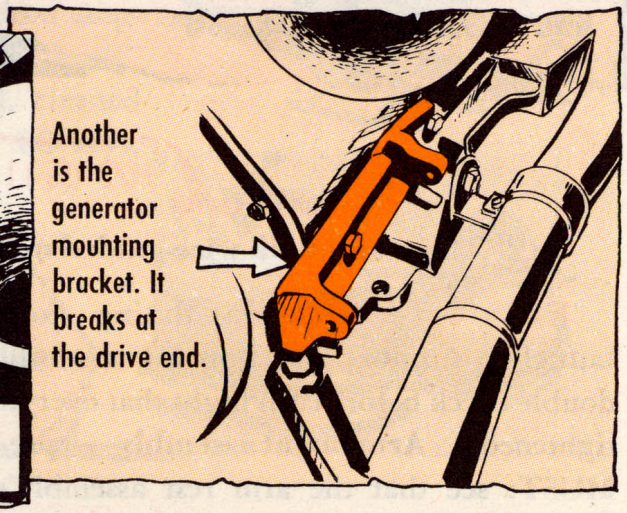


V-V-V-VIBRATION

Vibration is pure murder on many parts of your 5-ton M52A1 truck tractor. The shudders—set up by traveling at slow speed in high gear and by low idle speeds—loosen nuts, snap brittle parts, crack body seams and just generally rattle a vehicle apart.



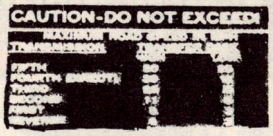
One victim of vibration on your truck tractor is the hydraulic pressure relief hose nipple. It snaps at the hydraulic pump and hose coupling.



Another is the generator mounting bracket. It breaks at the drive end.

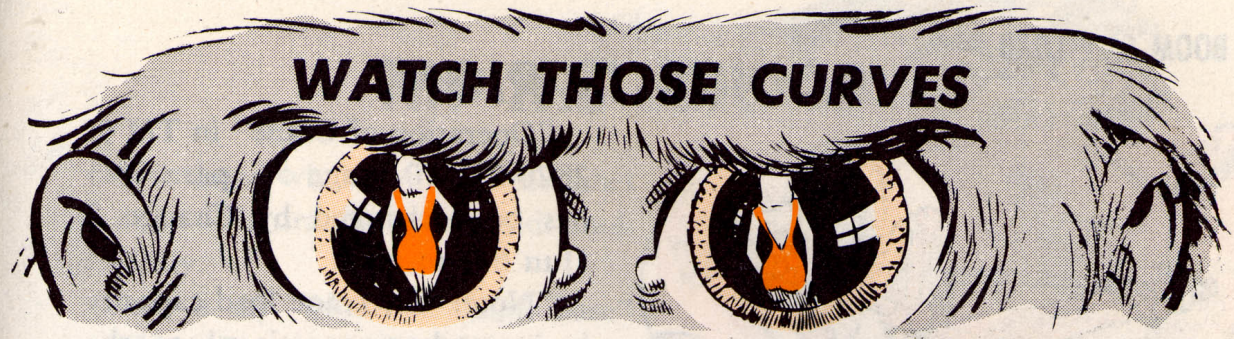
Overloading the engine can also bring an early death to bearings and rings. It can cause cylinder liner scoring, too, and coking of the injector nozzles.

These and other troubles come from operating in 5th gear high transfer range at speeds below 35-MPH. The same damaging vibration can be set up by traveling over rough terrain and not maintaining a minimum of 1700-RPM.



The data caution plate on your M52A1's instrument panel tells what gear you should be in for different speeds, and you can find the same dope in TM 9-2320-211-10.

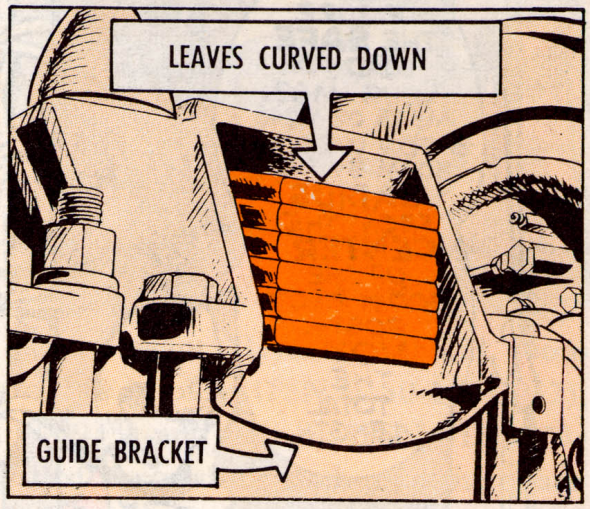
Vibration damage from too low an idle usually happens when the M52A1's engine is set to idle below 600-RPM. Set the engine idle at 700-750 RPM and you'll avoid vibration damage.



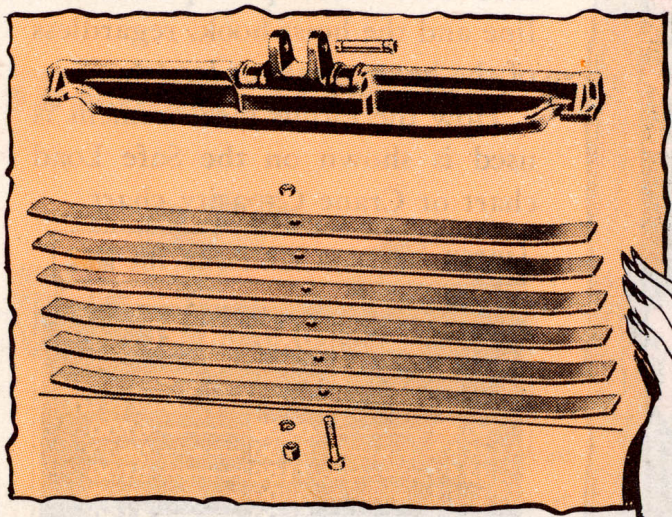
Yep! Take a good look at those curves and they'll tell you whether you're in for a let-down or an easy ride.

The curves are on the rear springs of the M62, M543 and M246 5-ton wreckers. The leaves should be curved down. If they curve up, the spring's installed wrong.

The spring should be assembled and installed with the curve away from the beam. When the spring is mounted on the wrecker, the ends of the main leaf should curve down and rest on the bearing plate inside the guide bracket.



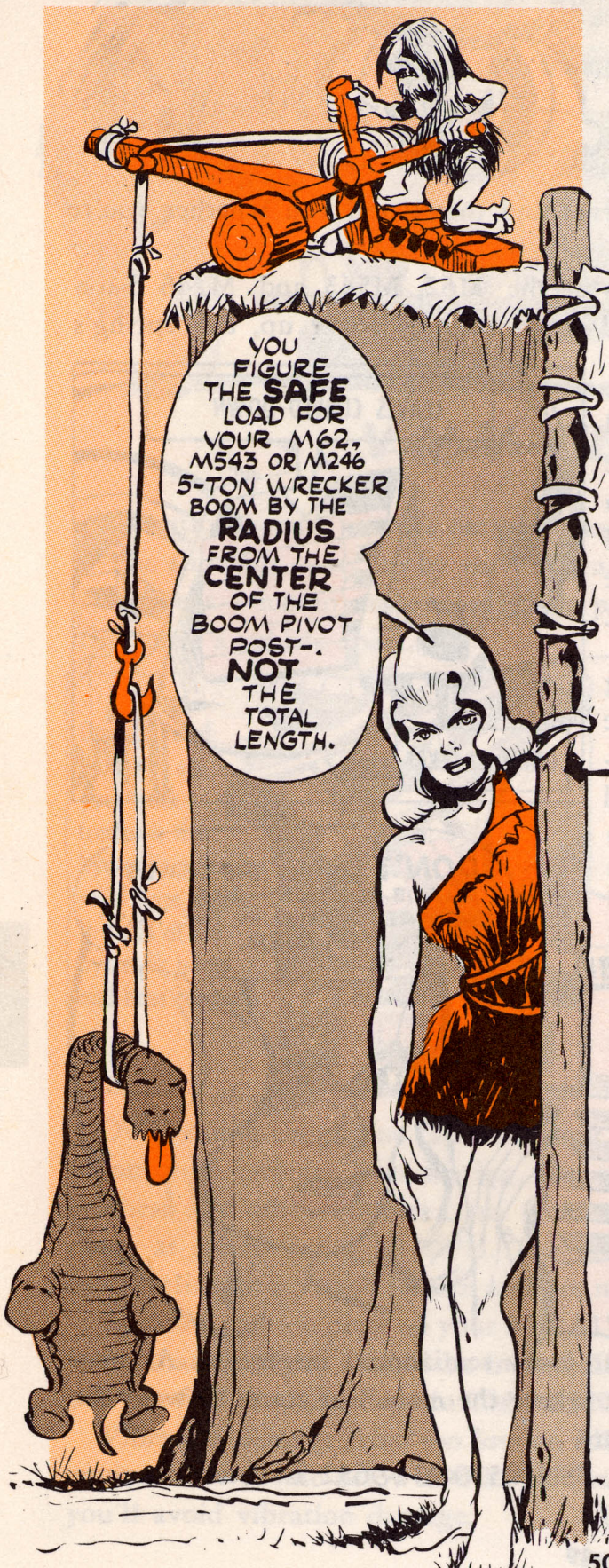
Some parts pubs show the spring leaves curved up in relation to the spring beam. This is OK for identifying parts but they shouldn't be installed that way.



Check this bearing plate for wear at every semiannual inspection. As soon as the plate is worn thru to the point where the main leaf starts to wear the guide bracket, replace the bearing plate.

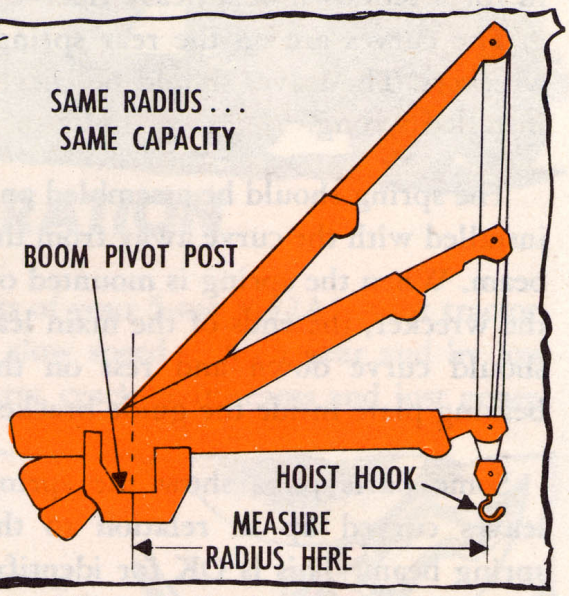
The Plate, Bearing, Guide bracket, FSN 2510-734-9652 is listed on page 127 in TM 9-2320-211-20P (Mar 63).

RADIUS IS RIGHT



"Operation of Crane" in TM 9-2320-211-10 (page 51, para 23c) has been changed by Change 2 (Jun 64) to read:

"Note: The crane load capacity is inversely proportional to the boom radius as measured below."



The safe load radius for operating the crane is the horizontal distance between the pivot post centerline and the hoist hook, regardless of the boom angle or length.

How the radius measurement is used is shown on the Safe Load chart or Crane Capacity chart.

HERE'S THE DATA PLATE FOR THE M62

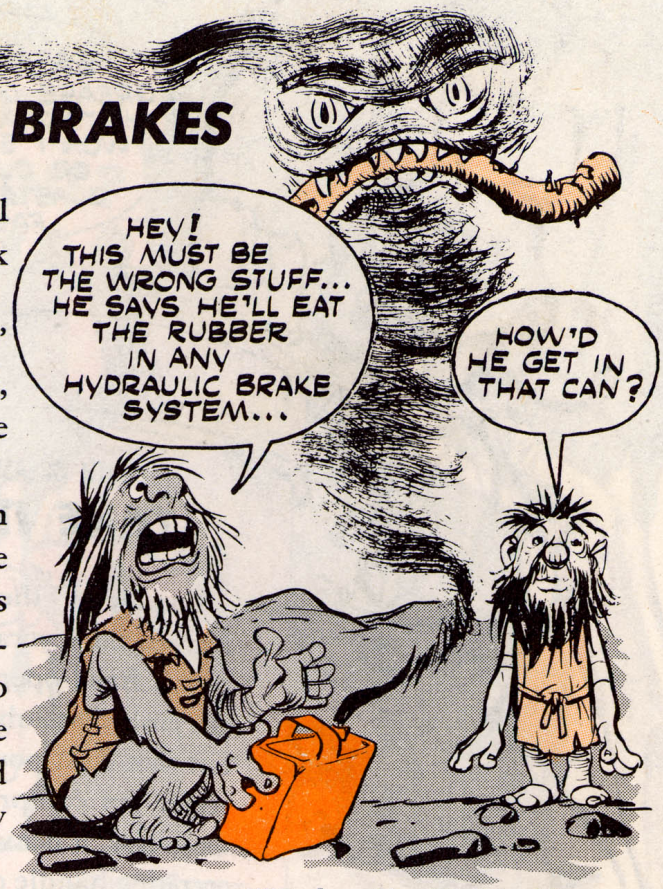
SAFE LOAD CHART

2 PART HOIST LINE

RADIUS	WITH OUTRIGGERS LOAD IN LBS.	WITHOUT OUTRIGGERS LOAD IN LBS.
10 FT.	10000	6700
11 FT.	8400	5800
12 FT.	7150	5100
13 FT.	6300	4600
14 FT.	5600	4150
15 FT.	5000	3800
16 FT.	4550	3500
17 FT.	4250	3200
18 FT.	4000	3000

MAXIMUM CAPACITY WITH BOOM RETRACTED & BOOM SUPPORTED TO FRAME - 20,000# @ 10 FT. RADIUS WITH ALL OUTRIGGERS DOWN - 3-PART LINE.
20,000# @ 13 FT. RADIUS WITH BOOM JACKS TO GROUND, 3-PART LINE - REAR OUTRIGGERS UP.

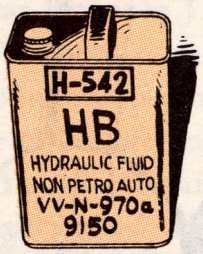
HIT THE BRAKES



Slow down when you read the label on a can of hydraulic brake fluid. Look carefully.

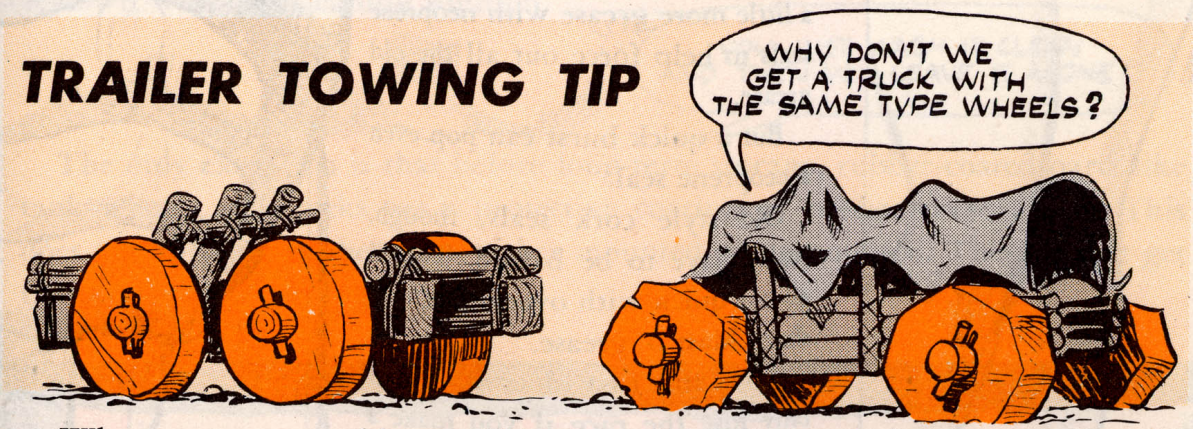
Does it say "Non-Petroleum Base" or "Non Petro Auto"? If it doesn't, never put it in your hydraulic brake system!

There's hydraulic fluid and then there's hydraulic fluid. Some guys are puttin' petroleum-base hydraulic fluids in their brake systems and really lousing up the works—causing damage to brake components, bringing on brake failure and endangering the lives and limbs of drivers and anybody who may be in the way of a brakeless vehicle.



Hydraulic brake systems want "Hydraulic Fluid, **Non-Petroleum Base.**" It comes in pints (FSN 9150-190-0932), quarts (FSN 9150-190-0933) and gallons (FSN 9150-231-9071). Don't be surprised if you can't latch onto the quart-size, because it's not being restocked after the present supply is exhausted.

TRAILER TOWING TIP

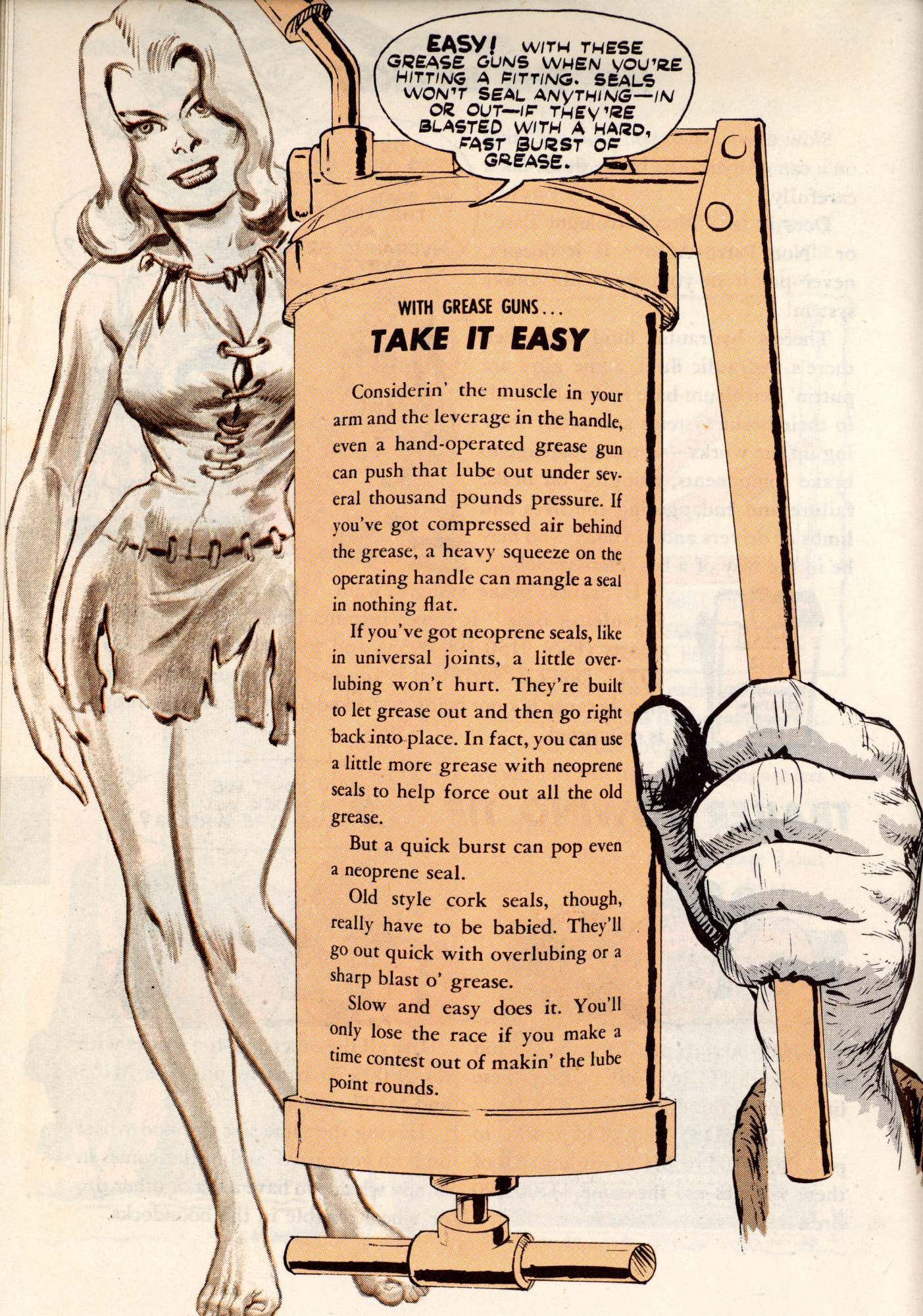


When you start matching up 2½-ton trucks with 1½-ton trailers, keep these little tips in mind.

Use the M135 and M34 trucks to pull the M104 or M106 trailers. All of these vehicles use the same 11:00 x 20 tires.

Use all the other 2½-ton trucks with the 9:00 x 20 tires to pull the M105 and M107 trailers.

Having the same size tire and wheel on both your truck and trailer comes in handy when you have a flat or other tire or wheel trouble in the boondocks.



WITH GREASE GUNS...

TAKE IT EASY

Considerin' the muscle in your arm and the leverage in the handle, even a hand-operated grease gun can push that lube out under several thousand pounds pressure. If you've got compressed air behind the grease, a heavy squeeze on the operating handle can mangle a seal in nothing flat.

If you've got neoprene seals, like in universal joints, a little overlubing won't hurt. They're built to let grease out and then go right back into place. In fact, you can use a little more grease with neoprene seals to help force out all the old grease.

But a quick burst can pop even a neoprene seal.

Old style cork seals, though, really have to be babied. They'll go out quick with overlubing or a sharp blast o' grease.

Slow and easy does it. You'll only lose the race if you make a time contest out of makin' the lube point rounds.

RUBBER . . .

TO PAINT OR NOT TO PAINT?

Dear Half-Mast,

Should we paint the rubber parts of our vehicles such as the tires or the track shrouds? If so, what kind of paint do we use?

SSgt J. A. B.

Dear Sergeant J. A. B.,

We won't gum up the answer by stretching a point or bouncing the facts around. You can't erase para 88 (d) of TM 9-213 (Jul 62) — "Rubber surfaces are to be left unpainted. . . ."

You don't paint the rubber on your tracked or wheeled vehicles. Also, you don't varnish it, you don't shellac it, you don't enamel it, and you don't rub it down with dry cleaning solution.

The only exception is that before long-term storage, rubber-coated parts like tank wheels and tracks get a protective coating of rubber preservative. This does not apply to rubber tires, either mounted or unmounted. They do not get the preservative coating.

Half-Mast

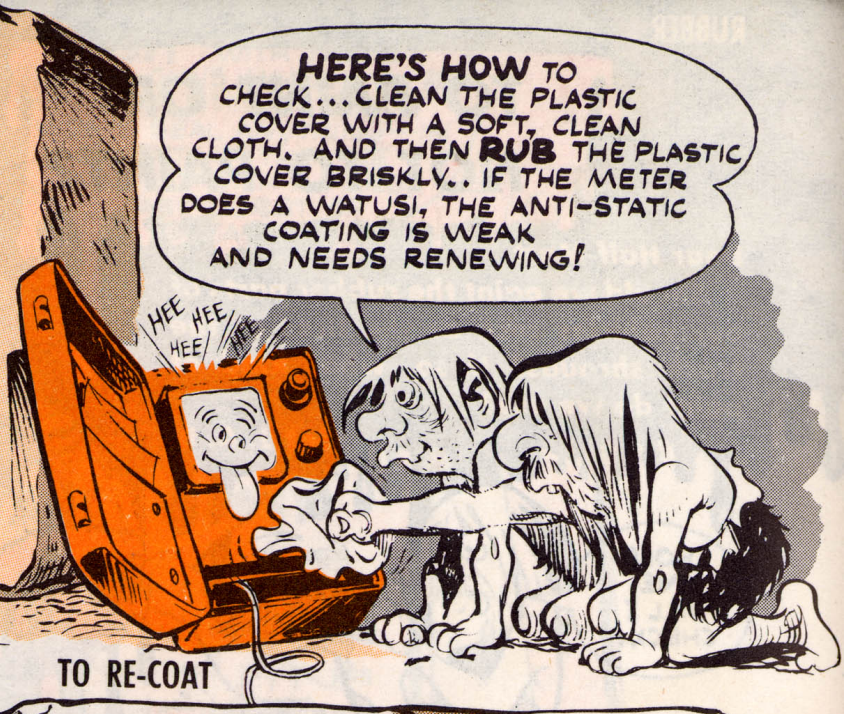
FRET NOT

No need to sweat and stew if your M35A1 2½-ton truck came without an air cleaner restriction gage. Some have 'em and some don't. TM 9-2320-235-20 (Jan 62) tells when — and how — to change the air filter without a gage. PS 142, with a special article on the M35A1, tells how the gage works and gives more on the air cleaner.

ANTI-STATIC COATING

Is your electrical test meter (low-voltage circuit-tester, ohmmeter, voltmeter, etc.) giving you wild readings?

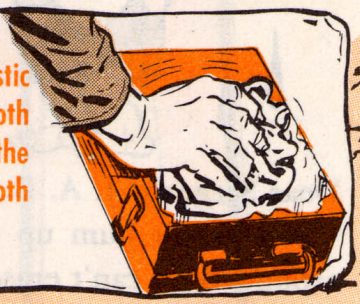
Don't cuss it. Check the strength of the anti-static coating on whatever plastic face covers it has.



TO RE-COAT

You do the job with anti-static compound, FSN 6850-368-5227. Or you can use one of the spray-type commercial compounds.

1 But, first wash the plastic cover with a soft, damp cloth (add a mild detergent to the water and squeeze the cloth fairly dry).



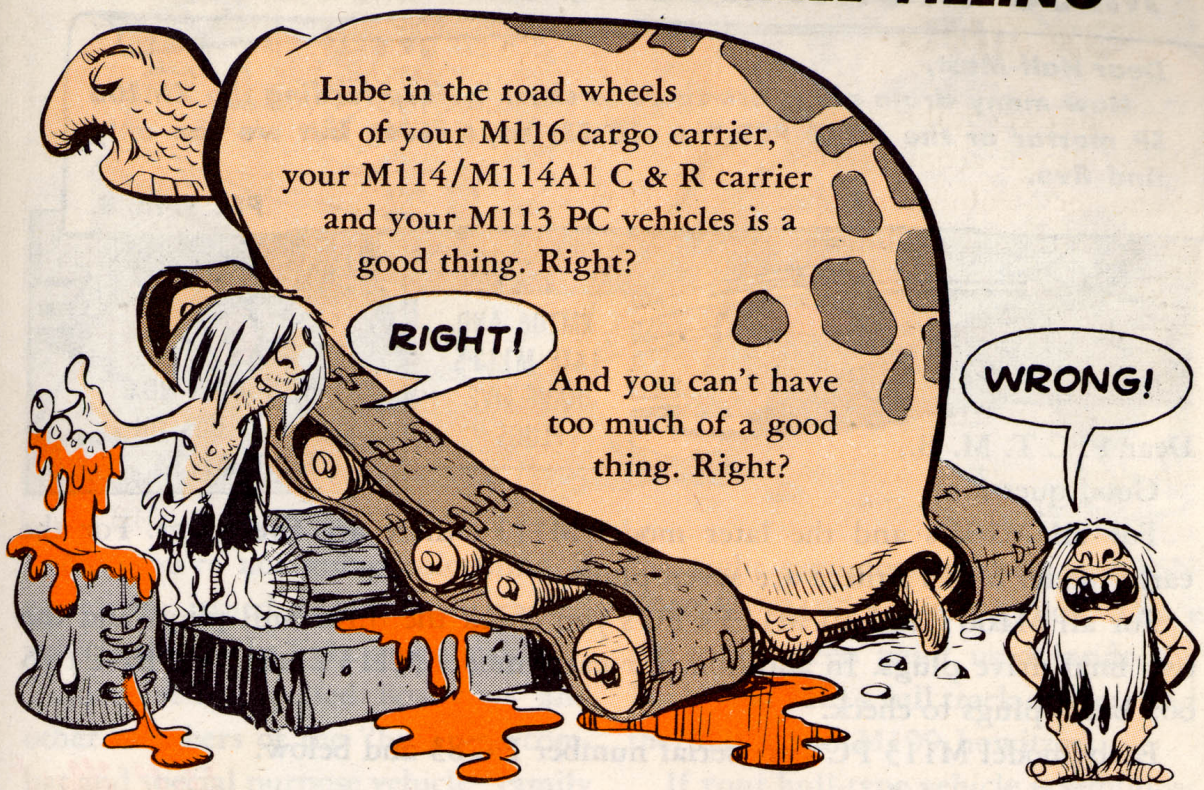
2 Don't rinse off the cover, just dry it with a clean, soft, lint-free cotton cloth.

3 Then coat the plastic cover with the anti-static compound. Apply the compound evenly with a new, clean brush, or spread it on evenly with a soft, lint-free cotton pad. Coat both sides of the covers (except hermetically sealed units, natch).

4 When the coating is completely dry, check the meter's anti-static protection again by rubbing the cover briskly with a soft, clean cloth. If the drying time for the compound isn't quoted on the container, let the coating dry for 30 minutes.

If you did a good coating job the meter won't go wild when you rub it.

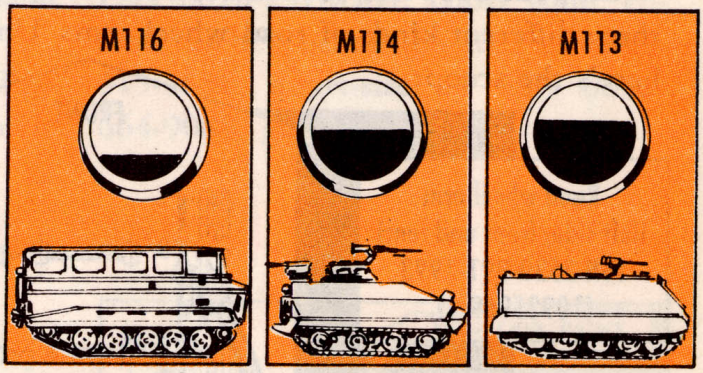
FILL IN ON ROAD WHEEL FILLING



If these road wheels are overfilled, the pressure can blow the seals or even break the sight glasses after the oil gets hot and expands.

Check the oil level daily but don't fill higher than it says in the LO for that particular vehicle.

For the M116 the level is correct when the surface of the oil shows through the sight plug. Correct level for the M114 is near the center of the sight plug and for the M113 family the oil must show halfway up or higher.



M577 COMMAND POST CARRIER PARTS

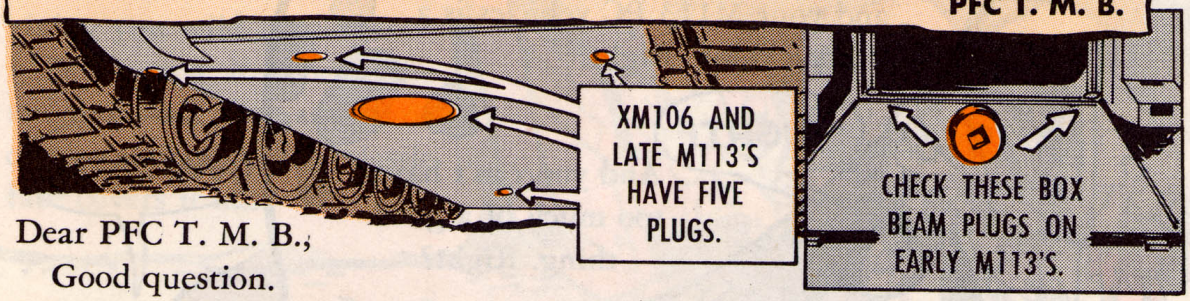
Need repair or replacement parts for your M577 command post carrier? You'll find 'em in Part Two of TM 9-2300-224-20P/3 (Nov 64). The two electrical cables for extension lights are included with the other parts of the covered extension and mounting kit.

M106 MORTAR CARRIER PLUG POOP

Dear Half-Mast,

How many drain plugs are there to check before fording the XM106 SP mortar or the M113 PC? The -10 TM says seven but we can only find five.

PFC T. M. B.



Dear PFC T. M. B.,

Good question.

For all M106's and the later model M113's there are five plugs. For the early model M113's there are seven plugs.

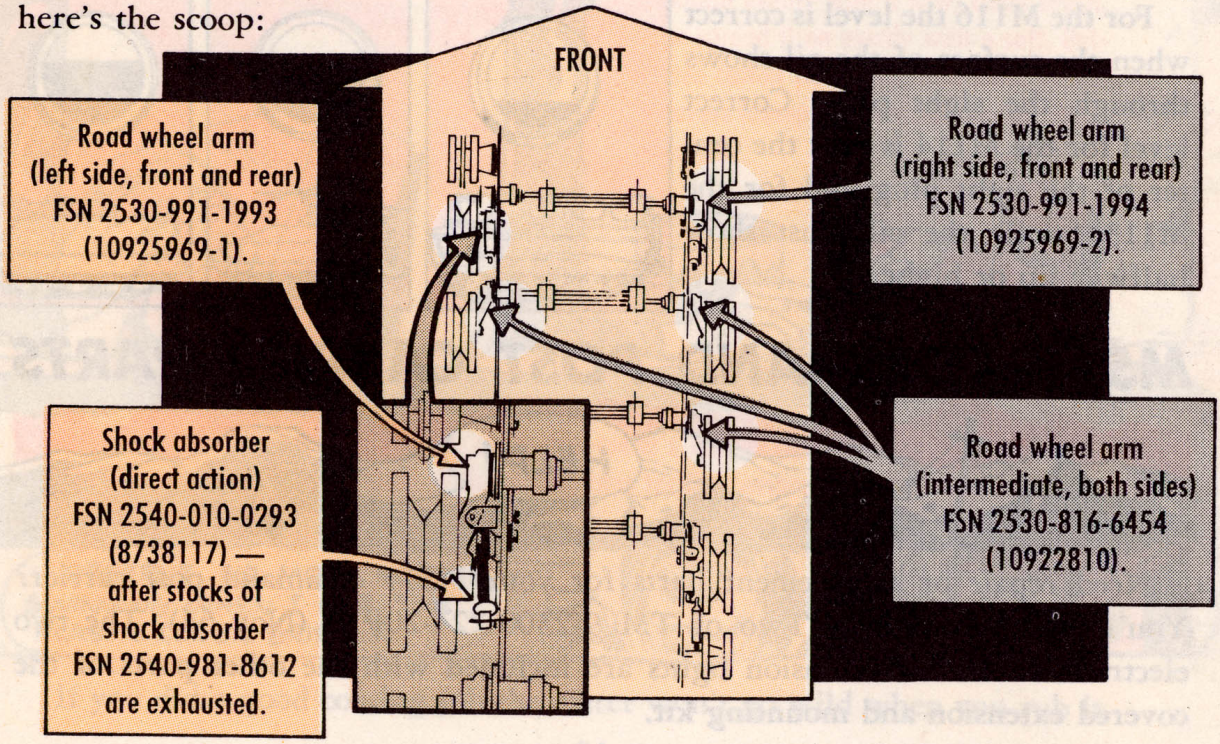
For all M106's and all M113's PC's you check the three hull plugs and the two final drive plugs. In addition, for early model M113's only, you have two box beam plugs to check.

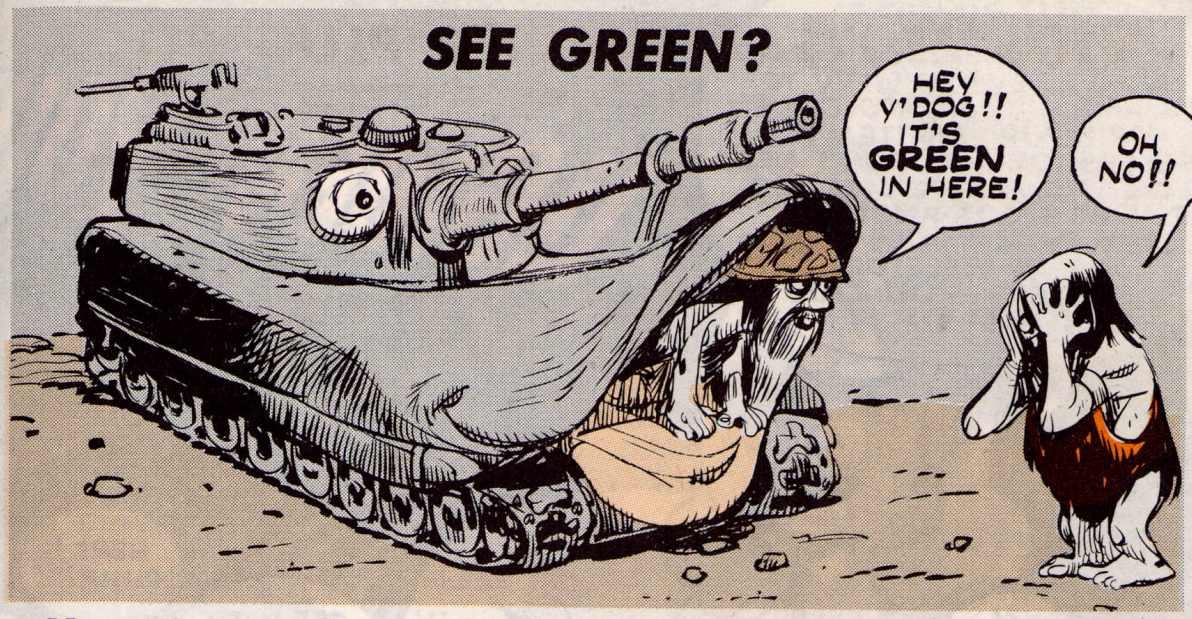
Early model M113 PC's are serial number F4783 and below.

Half-Mast

M114A1 ROAD WHEEL ARMS

On your M114A1 (or M113) command and reconnaissance carriers there are three different kinds of road wheel arms. Until you get your new parts manual, here's the scoop:





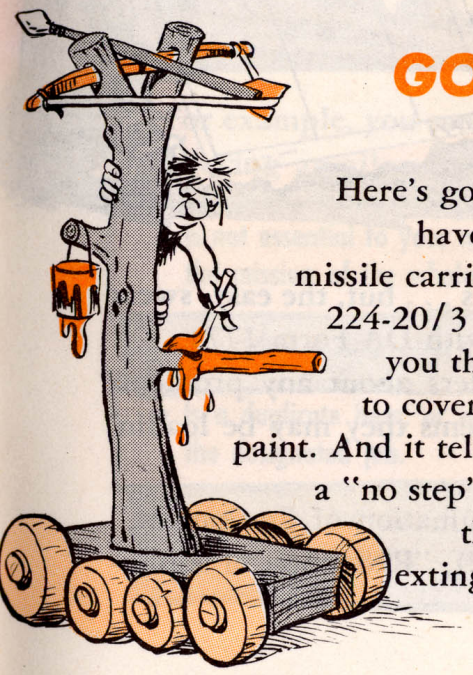
No, you're not going colorblind if you were issued a hull-type tracked vehicle that looks light green inside.

Some self-propelled howitzers and other members of the "hull-type combat and special purpose vehicle" family have come through green instead of the white called for by AR 746-5.

The color as issued is okay, and any touching-up should be with the same color and type of paint.

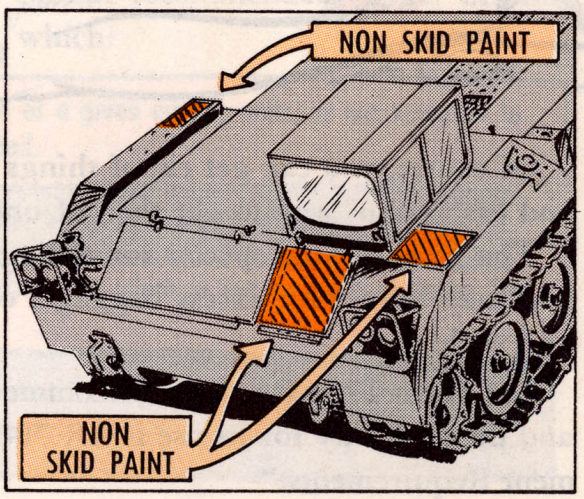
If that green needs touching up, FSN 8010-598-5648 will get you a quart of the right semigloss enamel, and FSN 8010-527-3197 is for a gallon. This's the same green paint used inside the M113 and M114 full track carriers and the M108 and M109 howitzers.

If your hull-type vehicle is semigloss white inside, per AR 746-5, you can get touchup enamel by the quart with FSN 8010-087-0107 or by the gallon with FSN 8010-297-0584. Gloss white enamel can be touched up with FSN 8010-515-1596, quart-size, or FSN 8010-664-9088, gallon-size.



GOT AN XM474E2?

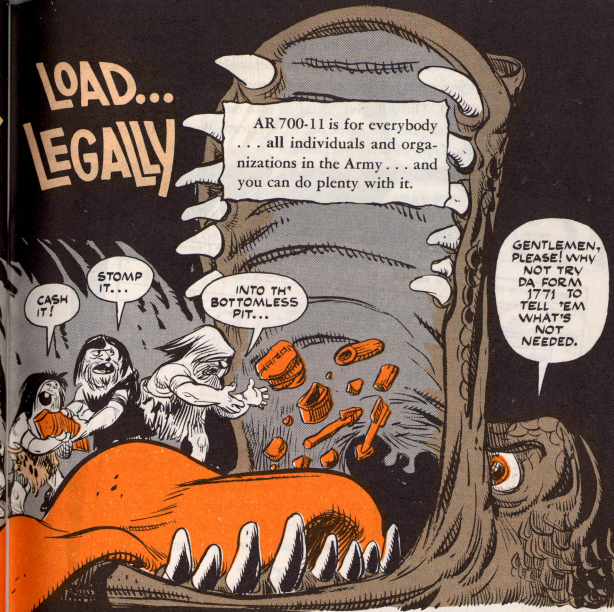
Here's good news if you have an XM474E2 missile carrier. TB 9-2300-224-20/3 (Dec 64) gives you three more areas to cover with non-skid paint. And it tells you to apply a "no step" warning near the external fire extinguisher handle.



Of course, you can get rid of things in different ways . . . but, the easy, sweat and cash-savin' way to get shed of unneeded stuff is with DA Form 1771.

The form's made special for telling top-side providers about any problems you may have with excess baggage, or unnecessary items they may be loadin' you with.

DA Form 1771 is called "Recommendation for Elimination of Equipment," and the authority for its use is AR 700-11 (14 Nov 62), "Reduction of Equipment Requirements."



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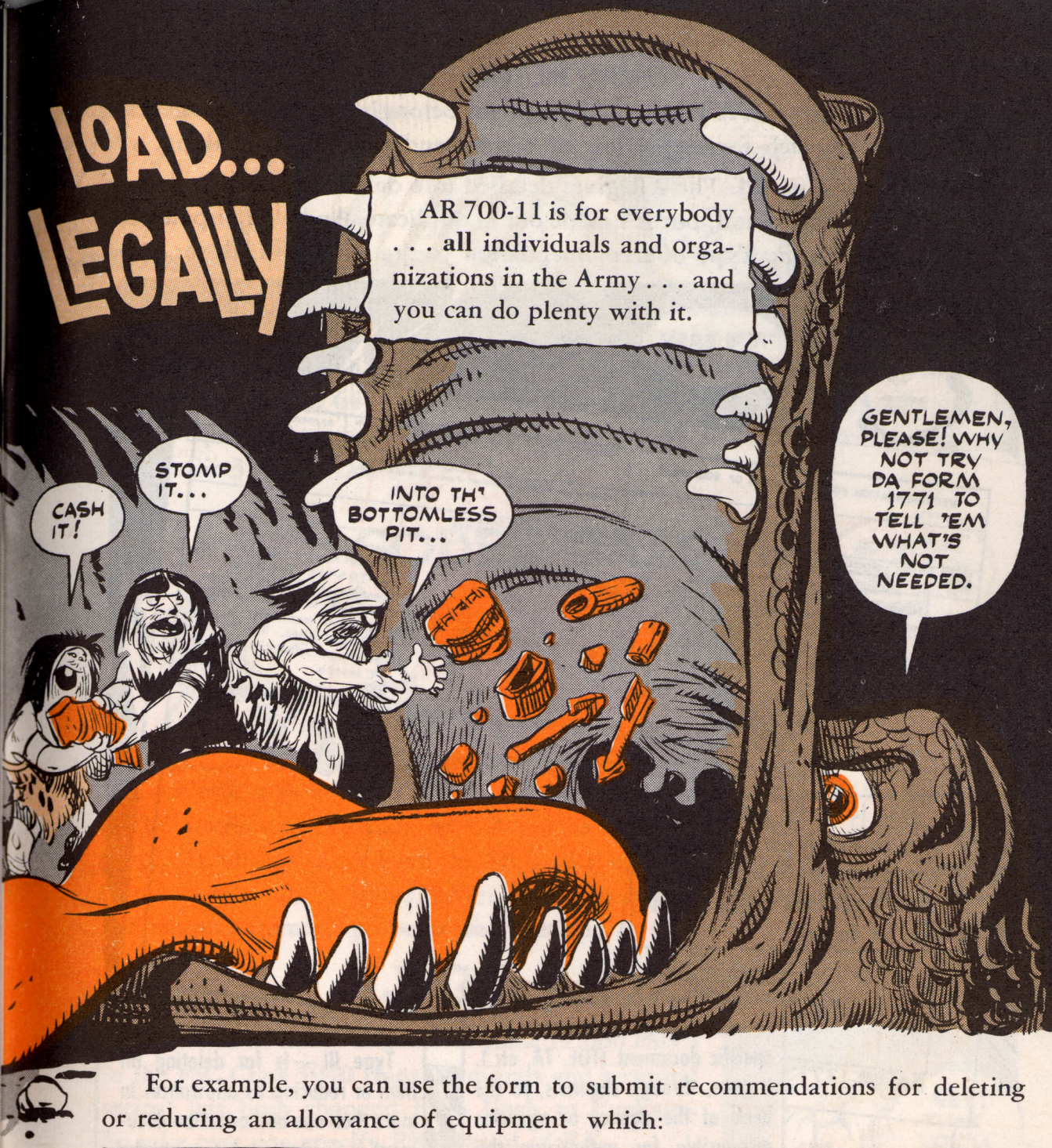
For example, you can use the form to submit recommendations for deleting or reducing an allowance of equipment which:

- Is not essential to your mission, to the mission of a given unit or units, or not essential to the mission of the whole PT-lovin' Army, period.
- Is needed at times, but can be gotten on a loan basis, or from a pool when needed.
- Is a duplicate item, or is comparable to another item which is just as good or better for the designated job.
- Is essential, but should be considered for deletion from the Army depot and maintenance system and obtained and maintained locally even in wartime.

MORE



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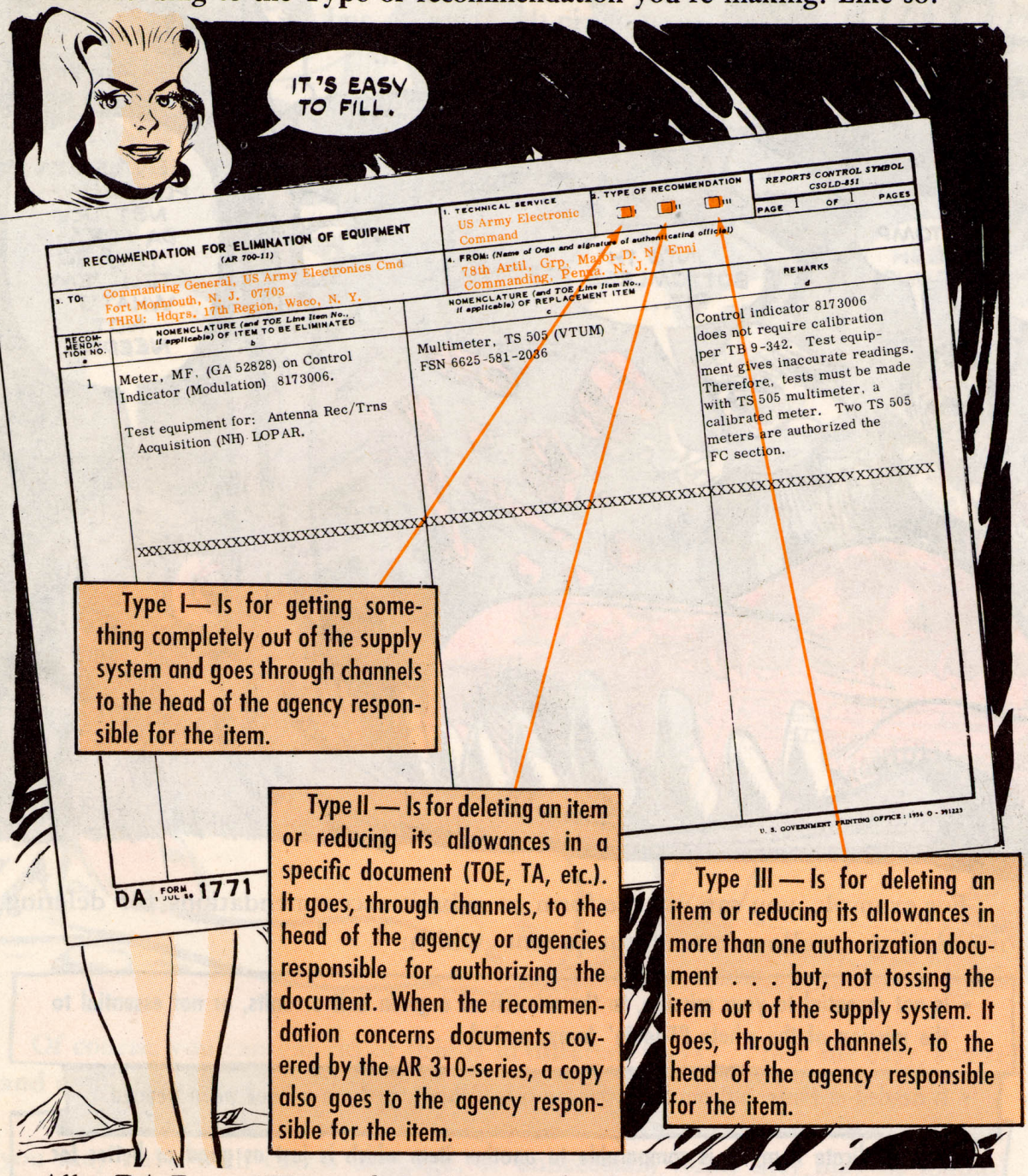
PS MORE

FILLING THE FORM

You use a separate DA Form 1771 for items belonging to separate agencies, and you tell on each form the type of recommendation you're making.

The form's easy to fill. The AR gives detailed info on filling it out. It doesn't take a letter of transmittal, but it's made out in duplicate. And, you dispatch the form according to the Type of recommendation you're making. Like so:



Type I — Is for getting something completely out of the supply system and goes through channels to the head of the agency responsible for the item.

Type II — Is for deleting an item or reducing its allowances in a specific document (TOE, TA, etc.). It goes, through channels, to the head of the agency or agencies responsible for authorizing the document. When the recommendation concerns documents covered by the AR 310-series, a copy also goes to the agency responsible for the item.

Type III — Is for deleting an item or reducing its allowances in more than one authorization document . . . but, not tossing the item out of the supply system. It goes, through channels, to the head of the agency responsible for the item.

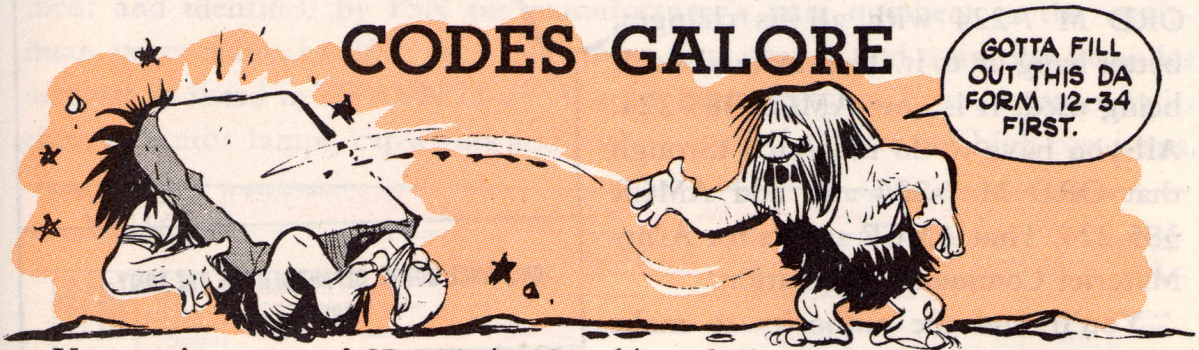
All a DA Form 1771 needs in the remarks department are brief statements explaining your reason for the recommendation. If you got plenty to say about the problem, use a plain sheet of paper and add it to the form.

So — what are you waiting for? Go fetch a copy of the AR and start thinking.

UP-DATED MARINE PM GUIDE

Your latest guide on Floating Craft Preventive Maintenance is TB 55-1900-202-12/1 (Oct 64). It's for use with DA Form 2404 and other records required by TM 38-750 (Jan 64) until the organizational maintenance manual for each item of equipment is published or up-dated. TM 55-507 (Dec 59) was rescinded by DA Cir 310-22 (Dec 64).

CODES GALORE



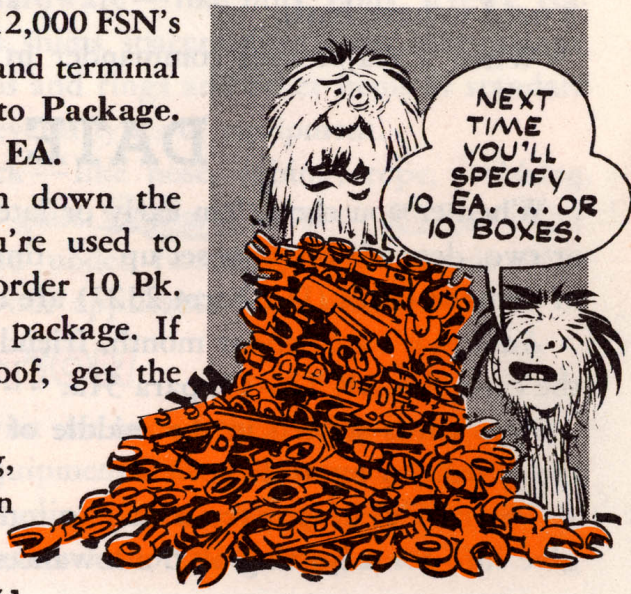
Your unit may need SB 708-41 (Oct 64) and Change 5 (Apr 65) when filling in the manufacturer's code on DA Forms 2408-7 and 2408-8. If your supply people or library don't have the SB, order one on DA Form 17. If you need future changes or revisions, better send in a revised DA Form 12-34 so you'll get 'em on automatic pinpoint distribution.

LUGS, ANYONE . . . ?

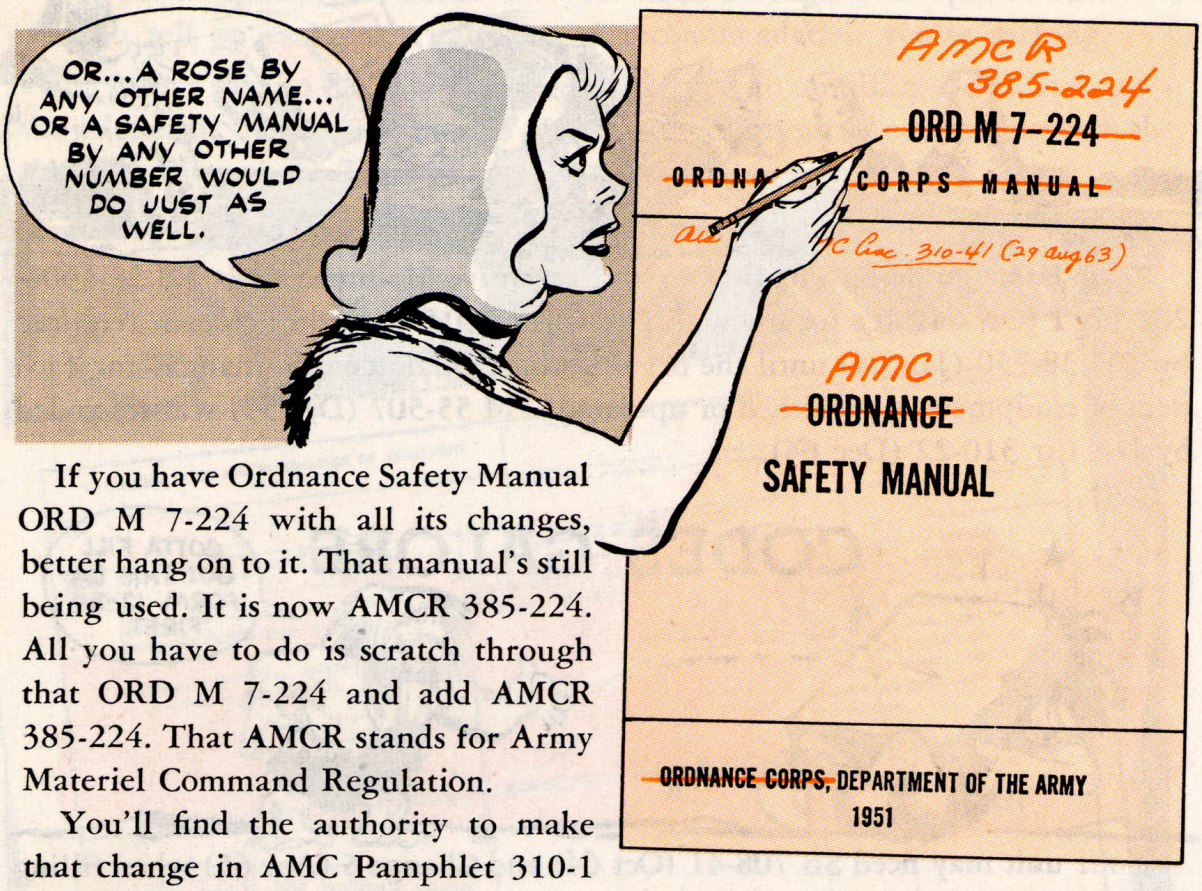
The "unit of issue" column for some 12,000 FSN's in the FSC Class 5940 (lugs, terminals and terminal strips) has been changed from **Each** to **Package.** So take care you specify **PK** instead of **EA.**

And, it's very important you trim down the **quantity** accordingly. That is, if you're used to ordering 10 Ea . . . be sure you don't order 10 Pk. The item could be packed 100 to the package. If supply support doesn't catch your goof, get the picture?

You'll be sufferin' from over-loading, and helping to create a big fat hole in stocks at the supply center.



A ROSE IS A ROSE . . .



If you have Ordnance Safety Manual ORD M 7-224 with all its changes, better hang on to it. That manual's still being used. It is now AMCR 385-224. All you have to do is scratch through that ORD M 7-224 and add AMCR 385-224. That AMCR stands for Army Materiel Command Regulation.

You'll find the authority to make that change in AMC Pamphlet 310-1 (Jan 65).

The latest Changes are — change 11 (30 Oct 64) and change 12 (9 Nov 64).

The safety manual is distributed to Army Materiel Command elements on a need-to-have basis.

When a major unit commander in the Field Army directs that the information in the AMCR 385-224 be used, he will usually do it by a local SOP and will provide copies or reproductions.

Department of the Army safety instructions are published in AR's of the 385-series and TM's.

DATE LINES

Whether you check 'em early or late and whether you do the job in one day or two, depends on your set up . . . time, convenience, SOP. But all your record of demand cards (DA Form 2527) are due a monthly review.

And, that's a calendar month, friend — not a month from the date you started the card. See AR 735-35, para 31a.

Even cards started in the middle of the month, or later, get a review line at the scheduled monthly review.

The review lines make it easy to tote-up six review periods (180-days), which give info for adjusting PLL allowances . . . so don't skip any cards.

IT'LL EAT UP YOUR -3's, SO . . .

DON'T LIST COMMON HARDWARE

When you're reporting repair parts usage on DA Form 2408-3, you can save yourself a lot of sweat, pencil lead and umpteen -3's by not listing common hardware parts and items cut from bulk stock.

Common hardware items are specifically excluded from block 11i of DA 2408-3—as spelled out in para 4-7c(21) of TM 38-750—when you record repairs accomplished as called for in para 4-7a(1).

So you . . .

LIST ONLY

. . . High-cost repair parts and assemblies specially designed for the equipment and identified by FSN (or manufacturer's part number) in the equipment parts manual (-20P, etc.), and those time change and condition items for aircraft as listed in TB AVN 23-65. Also list electron tubes, fuzes, resistors, switches, indicator lamps, capacitors and such—even if they're not high-cost items.

CONTROL NO.	1. ORGANIZATION	2. LOCATION	3. ORG IDENT CODE	4. SERIAL NO.
483124	1ST TK BN 110TH ARMOR BDE COA	APO 762, NEW YORK, N.Y.	A16534V	18220

5. NOUN NOMENCLATURE	6. LINE NO.	7. MODEL	8. FEDERAL STOCK NO.	9. STRAC	10. UTILIZATION CODE
TANK	230020	M48A2	2350-346-7560	☐ YES ☒ NO	ON

11. REPAIRS AND SERVICES / READING

	FAILURE DETECTED DURING a	FIRST INDICATION OF TROUBLE b	ACT CODE c	FAILURE CODE d	COMPONENT/PART NOUN OR SERVICE: CB CODE e	REF DESIG f	MFR g	MANHOURS HRS-10THS h	FEDERAL STOCK NUMBER i	QTY j	HOURS k	MILES l	ROUNDS/STARTS m	JULIAN DATE n
(1)	D	068	A	040	ODOMETER			.3.0	6680-776-0396	1	218	1801	780	5070
(2)	D	099	A	070	TORSION BAR			4.0	2350-763-5904	1	233	80	780	5073
(3)			E		QUARTERLY			12.0			248	161	807	5088
(4)														

(TM 38-750) REPORTS CONTROL SYMBOL CSGLD-1048 (R1)

DA FORM 2408-3, 1 JAN 64 CONTROL COPY 1

OMIT...

. . . Low-cost expendable common hardware—like nuts, bolts, screws, cotter pins, valve caps, lead seals, washers, shims, spacers, pipe plugs, lube fittings, clamps, rivets, grommets, retaining clips and rings and other items of standard shapes and sizes—normally used on several types of equipment.

Also, omit items cut from bulk stock—like hose, tubing, rope, webbing, safety wire, sheet metal, metal rod and glass.

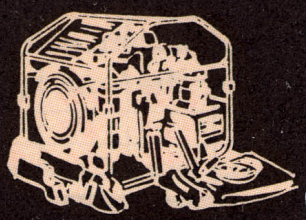
Generally, these items will be listed under functional group code 9500 (General Use Standardized Parts) in your applicable parts manual.

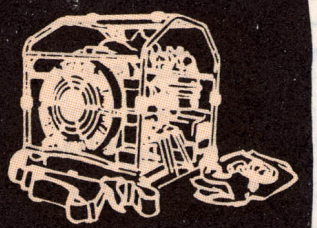
CAUTION

A word of caution, though. When you use one of these items to do a repair action or a service required by the equipment TM, you record the action in block 11 of the DA Form 2408-3 (including manhours required) even though you don't record the specific common hardware or bulk item used.

NOW HEAR THIS!

The new AN-M4 compressor (reciprocating, Power driven, 3½ CFM) takes special lubricating oil. **Never** feed it the same OE lubes authorized for **the engine** on the compressor. You'll damage the compressor.

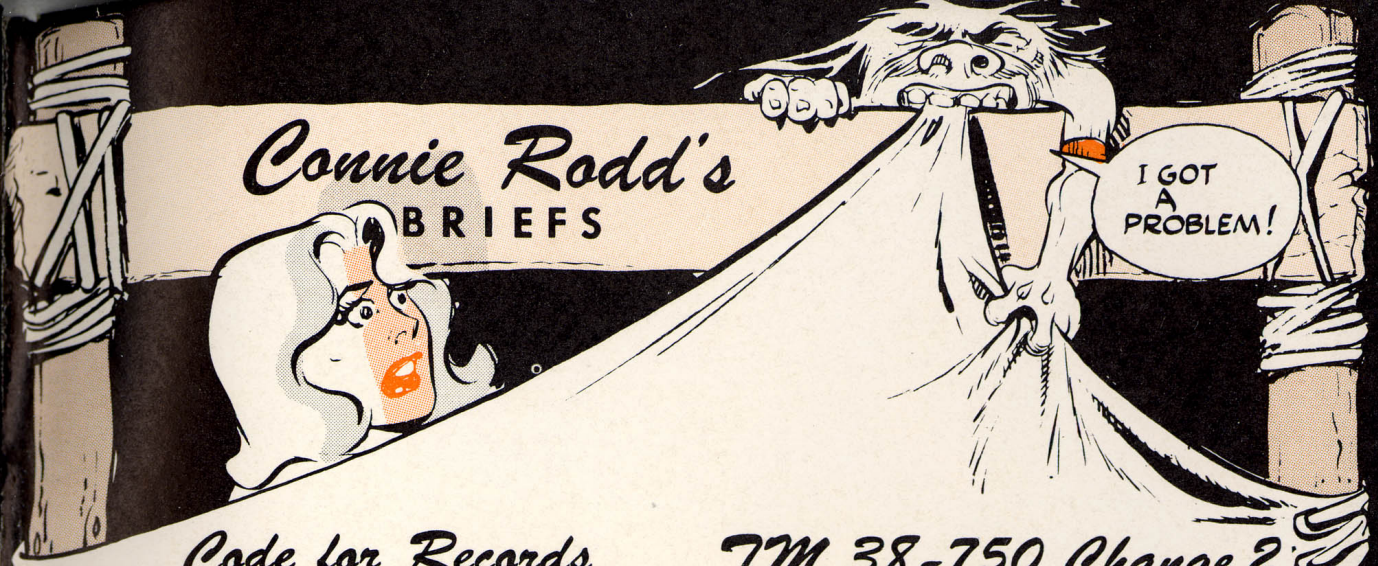




Like it says in LO-3-1040-210-12, the Walter Kidde AN-M4 compressor will operate safely ONLY on internal combustion engine oil, FSN 9150-753-4667.

The Stewart-Warner AN-M4 compressor, however, can operate on the above, like it says in LO 3-1040-224-12, or it can use instrument lubricating oil (OAI), FSN 9150-223-4129. The OAI is covered by MIL-L 6085, which is quoted on this compressor's data plate and in its manual, TM 3-1040-224-12.

The lubes the compressor must have are listed in FSC catalog C-9100-IL (Dec 64), "Fuels, Lubricant, Oils and Waxes."



Code for Records

Like AR 18-50 (3 Apr 65) says, the new **Unit** Identification Code (UIC) is to identify a unit for any administrative or management purpose. It went into effect 1 July 1965. Codes are listed in AR 18-50-10 (7 Jun 65).

Tach Talk

Been searching for the FSN's to get the tachometer parts to keep your tachometer perkin' in your M35A1 multifuel truck? Just pick up a copy of the new TM 9-2320-209-20P (21 Jan 65) and turn to page 268. You'll note that vehicles with engine serial number 6551 and up have tachometers. Action's in the mill that'll put tachometers in the earlier M35A1's.

. . . On Robbing Peter

When you pull a part off your equipment and turn it in to supply for overhaul, be sure it's in one piece. Holding part of an assembly for a rainy day (that never comes) costs Uncle plenty . . . in time and money.

TM 38-750 Change 2

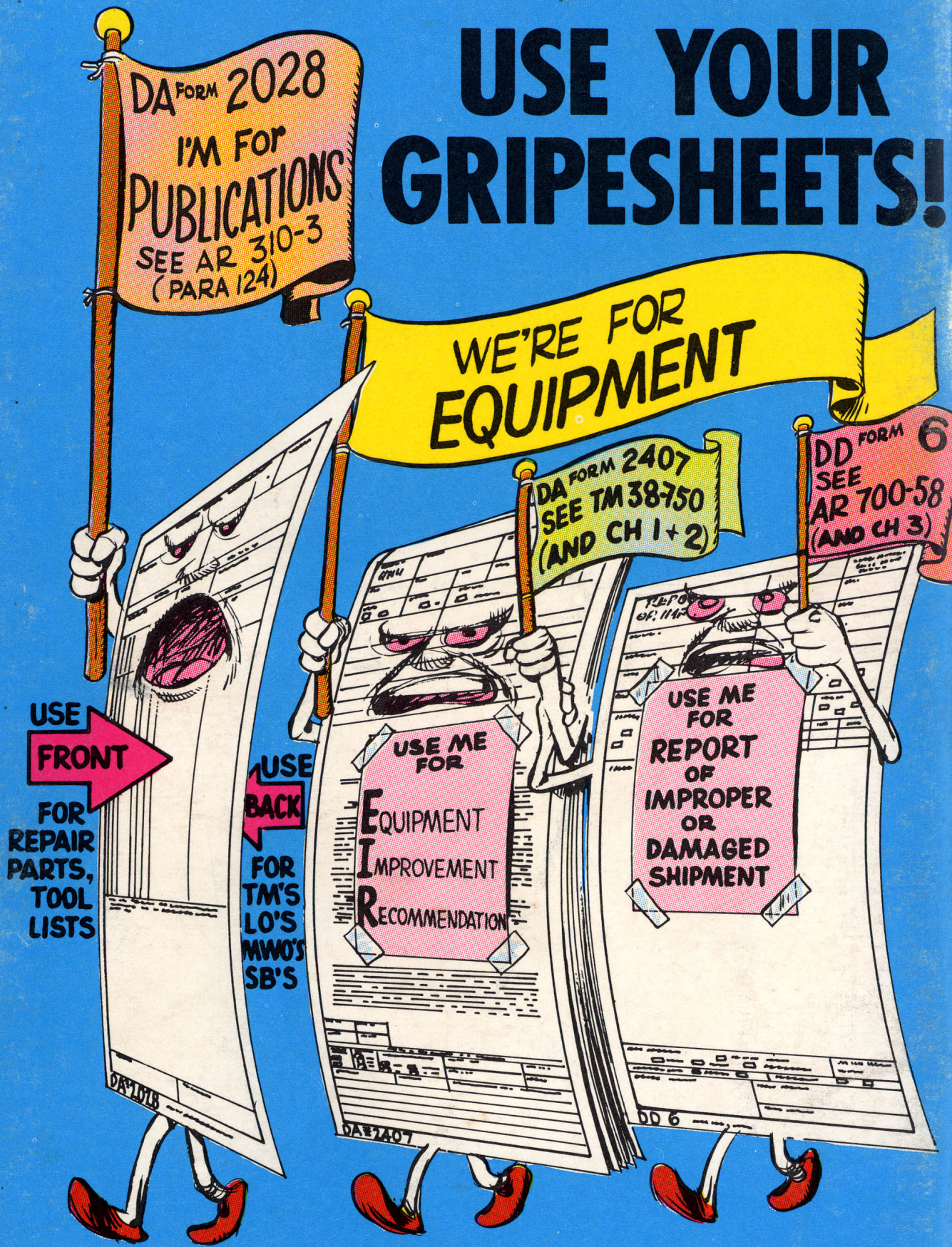
Change 2 (18 May 65) to TM 38-750, Army Equipment Record Procedures, is now out, hot off the press. This change brings you the latest word on keeping your equipment records up-to-date. Order copies you need today.

No Winch, No Chain

When you get Change 3 to TM 9-2320-211-10, you'll notice that the BIIL (OEM) listing can be interpreted to mean that all 5-ton G744 series trucks are authorized to have Chain, Utility, FSN 4010-473-6166. This is not so. The chain is only meant for 5-ton trucks with a front winch. So turn in all chains that're not teamed up with a front winch.

Reach Out . . .

To improve your maintenance or supply know-how, take a look at DA Pam 350-60 (Jun 64), the list of Army extension courses. Also, look over DA Pam 350-10 (Feb 65), US Army Formal Schools Catalog. It supersedes the old School Catalog, Pam 20-21.

Would You Stake Your Life right now on the Condition of Your Equipment?

USE YOUR GRIPESHEETS!